EXHIBIT 1

Kevin F. Ruf (#136901)
GLANCY PRONGAY & MURRAY LLP
1925 Century Park East, Suite 2100
Los Angeles, CA 90067
Tel: (310) 201-9150
Facsimile: (310) 201-9160
Email: kruf@glancylaw.com

Brian P. Murray (*Pro Hac Vice* to be filed)
Lee Albert (*Pro Hac Vice* to be filed)
GLANCY PRONGAY & MURRAY LLP
230 Park Avenue, Suite 300
New York, NY 10169
Tel: (212) 682-5340
Email: bmurray@glancylaw.com
Email: lalbert@glancylaw.com

Attorneys for Plaintiff

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA

MELISSA RYAN, individually and on behalf of all others similarly situated, Plaintiff, vs. FACEBOOK, INC., a Delaware corporation., Defendant.	Case No. **CLASS ACTION COMPLAINT** **JURY TRIAL DEMANDED**

Plaintiff alleges the following on behalf of herself and others similarly situated based on the review of public documents and information.[1]

INTRODUCTION

1. This Complaint is brought on behalf of people and companies—including the named Plaintiff—who bought advertising from Facebook at anticompetitively inflated prices. Over the course of the past decade, Facebook devised, executed, and reaped the benefits of a scheme to unlawfullymonopolize the market for social advertising. As a direct result, Facebook was able to (and in fact, did) charge supracompetitive prices for social advertisements to thousands of people and businesses, including the Plaintiff Melissa Ryan.

2. The nature, and indeed, fact of the anticompetitive overcharge levied by Facebook on Plaintiff and others similarly situated was not known until very recently—because Mark Zuckerberg and his lieutenants throughout Facebook specifically worked to keep their anticompetitive scheme under wraps. But recent revelations—including publicly-revealed internal Facebook communications and documents—make indisputably clear that Facebook intentionally and unlawfully monopolized the social advertising market; charged supracompetitive prices to Plaintiff and other Facebook advertisers; lied about it to Plaintiff, developers, regulators, the press, and the public; and reaped billions of dollars in inflated social advertising revenues in the process.

3. Facebook acquired the power to raise prices through the anticompetitive scheme described below, and did so year after year with no competitive check.

4. By the end of 2010, after Facebook had emerged the victor among social networks such as MySpace and Friendster, Facebook faced a new threat from smartphones. Mobile applications ("apps") on smartphones for the first time allowed users to access the

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[1] All references to internal Facebook documents are exclusively to those published by news organizations and other public sources, particularly NBC News. NBC'sdocuments were available at https://dataviz.nbcnews.com/projects/20191104-facebook-leaked-documents/assets/facebook-sealed-exhibits.pdf; and https://dataviz.nbcnews.com/projects/20191104-facebook-leaked-documents/assets/facebook-exhibits.pdf.

Internet from any location, on user interfacescontrolled by touch, providing a distinct experience from desktop or laptop computers. Special-purpose apps designed specifically for smartphones and smartphone web browsers could not only access the Internet, but also users' address books—a ready-made, proto-social network from which apps could draw.

5. The rise of smartphones immediately threatened Facebook's advertising business, whichhad plateaued as Facebook rapidly approached its initial public offering in 2012. It was clear that the digital future was moving toward mobile platforms, and Facebook's mobile product was substandard. Indeed, most of the advertising market would soon be designed for mobile platforms, and Facebook waslikely to be left out. Mobile apps also threatened user engagement on Facebook's core product (a desktopweb app), and reduced engagement would in turn reduce the demand for Facebook's targeted social advertising. Facebook faced a vicious negative feedback loop that could destroy its business.

6. That is when, according to internal Facebook documents, Facebook's founder and CEO, Mark Zuckerberg, as well as Facebook's most senior executives, hatched and executed a plan to (a) neutralize any potential competition from tens of thousands of mobile and mobile-friendly apps builtusing Facebook's own platform (called "Platform"), (b) conscript apps on its Platform to bootstrap through large advertising purchases Facebook's fledgling NEKO mobile advertising product withrestrictive tying agreements, and (c) acquire, kill, or clone competitors that could rival Facebook as a source of social user data, which would in turn threaten Facebook as a preeminent and unopposed platform for social advertising.

7. Facebook executed its scheme with the help of spyware created by a company it ultimatelyacquired, Onavo, which—by deceiving millions of mobile users into believing they were downloading apps with utility (such as a virtual private network app)—provided Facebook with real-time surveillanceof its competitive threats. This real-time surveillance apparatus allowed Facebook to identify mobile app developers from which to demand advertising purchases or data sharing agreements. It also allowed Facebook to identify rapidly growing threats to its core social networking product—such as Instagram and WhatsApp, which

Facebook acquired, and Snap, which Facebook failed to acquire and insteadcloned.

8. From 2012 through 2015, Facebook quietly executed its scheme. Its senior lieutenants cataloged and bucketed third-party apps on its Platform according to whether they were aligned with Facebook's business, were competitive or potentially competitive with Facebook, or were to be destroyed. During this same period, Facebook's senior-most engineers—many acting under protest— prepared to gut Facebook's Platform of its most important functionality.

9. The functionality Facebook would remove from its Platform went to the heart of the Platform itself—the application programing interfaces relied on by apps to traverse Facebook's networkof user connections and to access user timelines and/or news feeds (the "Core APIs").

10. Facebook decided to deceptively announce the scuttling of its own Platform at its "F8" conference held on April 30, 2014. That is, out of concerns that the announcement would cause vocal protests among developers whose business would be destroyed by the move, Facebook planned to bury the announcement under a broader announcement about its Facebook Login product. Internally, Facebook's senior executives and engineers referred to this plan to bury the change as the "switcharoo plan."

11. On April 30, 2014, at F8 2014, Facebook, as planned, misleadingly folded in the announcement that the Core APIs would be removed with its announcements surrounding Facebook's Login product. The alleged premise of the conference and of the Login product changes was to allow users more control over their data. Facebook did not even mention the APIs it was withdrawing at the conference, quietly announcing the deprecation of the Core APIs in a change log, and falsely stating in an FAQ that Facebook would be removing "rarely used" APIs.

12. On April 30, 2015, one year after its deceptive FAQ, Facebook ejected 40,000 apps fromits Platform by breaking them. At and around that time, Facebook communicated more pretext surrounding its decision, systematically lying to developers and telling them that

Facebook's API decisions were driven by user privacy and the need to curb privacy abuses. Internally, however, Facebook's most senior executives had called those reasons "False" and "pablum."

13. While Facebook systematically lied to developers and the public about its Platform change, it quietly forced deals with targeted app developers on its Platform. These chosen developers could continue to use particular Core APIs (which Facebook told others were "going away" for everyone),so long as they entered into agreements with Facebook to (a) purchase large amounts of mobile advertising from Facebook, or (b) feed back their own users' data to Facebook. The agreements betweenFacebook and these developers were anticompetitive on their face.

14. Destroying or conscripting apps on its own Platform was not the only thing Facebook didas part of this scheme. Facebook also acquired, killed, or cloned companies that its deceptive spyware, Onavo, had identified as having rapidly obtained user engagement and large user bases. Most notably, Facebook acquired Instagram and WhatsApp to prevent these products from emerging as sources of dataand user engagement that could fuel a rival social advertising platform. And when Snap rejected Zuckerberg's $3 billion acquisition offer, Facebook cloned Snap's product with precision.

15. Over the course of several years beginning in approximately 2010-2011, the net effect ofFacebook's Platform changes, its unlawful agreements with app developers, its Onavo spyware, and its unlawful mergers and acquisitions was that Facebook (a) coerced massive advertising purchases from developers; (b) captured and exercised control over data that could otherwise fuel a rival socialadvertising platform through whitelist and data sharing agreements; (c) destroyed rivals not beholden toFacebook to prevent them from emerging as competing advertising platforms or sources of social data; and (d) destroyed apps that threatened user engagement with Facebook's core product, and thereby Facebook's social advertising products.

16. Facebook rapidly became the only source for highly valuable advertising that could precisely target networks of users in a social network. Facebook used this market power

to repeatedly raise advertising prices every year since it began its scheme. Over the course of nearly a decade, Facebookhas faced no meaningful competitive check on social advertising prices—and it has extracted supracompetitive revenues from advertisers like Plaintiff throughout this period.

17. Plaintiff is an advertiser on Facebook's advertising platform that were injured by payingsupracompetitive prices for social advertising. Indeed, the prices they paid would have been lower if Facebook had not unlawfully monopolized the Social Advertising Market, as those prices would have been subject to competitive forces that would otherwise exist as a check on Facebook's market power and monopoly.

18. Facebook managed to hide its anticompetitive scheme through (a) a code of secrecy in theface of a duty to speak truthfully and fully about its Platform, (b) affirmative false and pretextual statements to developers about the reasons for its decision to destroy its own developer ecosystem, and (c) false and misleading statements to regulators that approved Facebook's acquisitions of WhatsApp andInstagram. Facebook's ruse largely succeeded until internal documents, which were seized by the UK Parliament in 2018, were published in full by NBC News and other news organizations in November 2019.

PARTIES

I. PLAINTIFF

19. Plaintiff Melissa Ryan is an individual in San Diego, CA. Plaintiff purchased advertising on Facebook's self-service advertising platform during the Class Period for her business. Until no earlier than November 6, 2019, Plaintiff did not know, and could not reasonably have known, the truth about Facebook's anticompetitive conduct, including its purpose and intent to engage in anticompetitive conduct, nor could it have knownthat it had been injured by paying supracompetitive prices for advertising.

20. Plaintiff paid prices for advertising that were higher than they would have been absent Facebook's anticompetitive conduct and unlawfully acquired and/or maintained monopoly. Facebook caused Plaintiff to pay supracompetitive prices for advertising as a result

of the market power it obtainedand/or maintained as a result of the anticompetitive scheme described in this Complaint.

II. DEFENDANT

21. Defendant Facebook, Inc. ("Facebook") is a publicly traded company, incorporated in Delaware. Facebook's principal place of business and headquarters is located at 1601 Willow Road in Menlo Park, California.

22. Founded in 2004 by Mark Zuckerberg, Facebook is a social media company that providesonline services to billions of users around the world. In exchange for providing services, Facebook collects user data, which it uses to create and sell targeted advertising services. Facebook's principal revenue is from targeted social media advertising that it provides to advertisers as a data broker.

23. Facebook also operates as a platform for third-party applications and hardware, and ownsand operates several business divisions:

- *Facebook*. Facebook's core application, which bears the company's name, is, according to Facebook's filing with shareholders, designed to enable "people to connect, share, discover, and communicate with each other on mobile devices and personal computers." The Facebook core product contains a "News Feed" that displays an algorithmically ranked series of stories and advertisements individualized for each person.
- *Instagram*. Instagram is a photo-sharing application that allows users to share photos, videos, and messages on mobile devices. Instagram was acquired in April 2012 and at present, Facebook operates Instagram as a separate application from its core Facebook product.
- *Messenger*. Facebook's Messenger application is a multimedia messaging application, allowing messages that include photos and videos to be sent from person to person acrossplatforms and devices.
- *WhatsApp*. WhatsApp is a secure messaging application used by individuals

and businesses. WhatsApp was acquired by Facebook in 2014 for $21.8 billion, and at the time hadapproximately 450 million users worldwide.

- *Oculus*. Oculus is Facebook's virtual reality hardware line of business, which Facebook acquired in March 2014 for approximately $2 billion.

24. Facebook's revenue as of year-end 2019 was $70.70 billion (up 27% from the previous year), with net income from operations of $23.99 billion. Almost all of this revenue came from advertising, particularly mobile advertising. As of year-end 2019, Facebook maintained $54.86 billion incash and cash-equivalent securities. Facebook employed 44,942 people around the world at the end of 2019 (up 26% from the previous year).

25. For the 2019 fiscal year, Facebook reported to investors that on average it had 1.66 billiondaily active users of Facebook and Messenger ("DAUs") (up 9% from the previous year) and 2.50 billionmonthly active users ("MAUs") (up 8% from the previous year). Facebook also reported that on averageit had 2.26 billion daily active people ("DAP") who used any Facebook product (up 11% from the previous year) and 2.89 billion monthly active people ("MAP") (up 9% from the previous year).

III. JURISDICTION AND VENUE

26. This action arises under Section 2 of the Sherman Antitrust Act (15 U.S.C. § 2) and Sections 4 and 16 of the Clayton Act (15 U.S.C. §§ 15, 26). The action seeks to recover treble damages, interest, costs of suit, equitable relief, and reasonable attorneys' fees for damages to Plaintiff and members of the Classes resulting from Defendant's restraints of trade and monopolization of the Social Advertising Market described herein.

27. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 (federal question), 1332 (class action diversity jurisdiction), and 1337(a) (antitrust); and under 15 U.S.C. § 15 (antitrust).

28. Venue is appropriate in this district under 15 U.S.C. § 15(a) (Clayton Act), 15 U.S.C. § 22(nationwide venue for antitrust matters), and 28 U.S.C. § 1391(b) (general venue provision). Facebook transacts business within this district, and it transacts its affairs and carries

out interstate trade and commerce, in substantial part, in this district.

29. The Court has personal jurisdiction over Facebook as it is subject to general jurisdiction in the State of California, where it maintains its headquarters and its principal place of business. The scheme, conspiracy, and monopolization alleged in this Complaint was targeted at individuals throughout the United States, causing injury to persons in the United States, including in this district.

IV. INTRADISTRICT ASSIGNMENT

30. This action is properly assigned to the San Jose Division of this District, pursuant to Civil Local Rule 3-2(c) and (e), because Facebook is headquartered in San Mateo County (which is served by the San Jose Division), and a substantial part of the events or omissions that give rise to the claims occurred there.

FACTS

V. FACEBOOK EMERGES AS THE DOMINANT SOCIAL NETWORK

A. The Last Social Network Standing

31. Facebook's meteoric rise since its founding in 2004 is well documented. The company—started in the dorm room of its CEO Mark Zuckerberg as "the facebook"—rose to prominence in the face of fierce competition from several social networks. Initially an exclusive service for elite universities throughout the United States, Facebook eventually expanded its network to encompass a general audience of users throughout the United States and worldwide.

32. Between 2004 and 2010, Facebook vanquished a number of rivals to emerge as the dominant social network in the United States.

33. Facebook's first chief competitor was MySpace. Founded in 2003 (a year before Facebook), MySpace targeted the same audience, provided largely the same services, and rapidly attracted an enormous number of users. By 2005, MySpace had 25 million active users, and was acquired by NewsCorp for $580 million. In 2006, MySpace registered 100 million users, passing Google as the most visited website in the United States.

34. However, the next three years featured a steady downward spiral for MySpace—

and countervailing growth by Facebook. In 2008, Facebook passed MySpace in worldwide active users and continued to grow, reaching 307 million active users across the globe by April 2009. In May 2009, Facebook passed MySpace in United States, 70.28 million to 70.26 million monthly active users.

35. MySpace never came close to Facebook again. By 2010, MySpace had mostly exited themarket, leaving the business of social media for good. MySpace's CEO capitulated in November of 2010:"MySpace is not a social network anymore. It is now a social entertainment destination." In September 2010, MySpace reported that it had lost $126 million, and in June 2011, NewsCorp sold the company for $35 million—$545 million less than it had paid just six years earlier. By then, its user base had dwindledto just 3 million monthly visitors.

36. During the same time period, several other social networks also met their demise, including Google's Orkut, AOL's Bebo, and Friendster, which failed to scale rapidly enough to competewith MySpace and Facebook.

37. By 2009 and through 2010, Facebook emerged as the only peer-to-peer social media network to exist at scale, and no other network or company rivaled Facebook's massive user base. On March 2, 2010, *Adweek* reported that Facebook had booked revenues of up to $700 million in 2009 and was on track for $1.1 billion in 2010—almost all from advertising to

Person of the Year
TIME
Facebook's
Mark
Zuckerberg
THE CONNECTOR

its newly won users. Facebook hadbeen roughly doubling its revenues every year up until that point—$150 million in 2007, $280-300 million in 2008, and $700 million in 2009.

38. Time Magazine heralded Zuckerberg as its 2010 Person of the Year.

39. Time's cover story set out the stakes—the scope of the newly assembled social network was unprecedented and staggering:

> What just happened? In less than seven years, Zuckerberg wired together atwelfth of humanity into a single network, thereby creating a social entity almost twice as large as the U.S. If Facebook were a country it would be the third largest, behind only China and India. It started out as a lark, a diversion, but it has turned into something real, something that has changed the way human beings relate to one another on a species-wide scale. We are now running our social lives through a for-profit network that, on paperat least, has made Zuckerberg a billionaire six times over.

40. By 2010, Facebook was unrivaled and dominant in a way no company since Microsoft had been in post-personal-computer history. And it had done so by riding the currents of powerful network effects.

B. A New Market of Its Own Creation

41. By the beginning of the millennium's second decade, Facebook was the indisputable kingof an entirely new market—a market built not on hardware or operating system dominance, but one builton a network of people, with its power and value directly derived from their engagement with that network. The more data users fed into Facebook by communicating and interacting with each other, posting their pictures, and publishing their content, the more valuable the Facebook network became to third parties, who could advertise to Facebook's users by targeting them using the very information theyprovided to Facebook's

network.

42. Data about what information users shared on their personal pages; the photos and profilesthey viewed; their connections to others; what they shared with others; and even what they put in messages to other users all allowed targeted advertising on a scale that had never before existed. Unlikesearch advertising, Facebook's advertising platform allowed advertisers to target Facebook's user base by their attributes and behavior, not by a query entered into a search box. More importantly, unlike in search, user identity was not only discoverable, it was willingly provided by users—as was the identity of those users' closest friends and family members. These identities could be tracked and targeted throughout the Internet.

43. This social data created by Facebook's network of engaged users could be monetized in a number of ways. The data could be resold for targeted advertising and machine learning; Facebook's machine learning algorithms mined patterns in the data for advertisers, which allowed advertisers to reachprecisely the right audience to convert into sales, user signups, or the generation of sales leads. The dataalso could be sold by commercializing access—for example, by providing application developers, contentgenerators, and advertisers with direct access to the information embedded in Facebook's network, such as the interconnection between users, user attributes, and user behavior. That data then could be mined by these third parties.

44. All of the methods of monetizing social data were based on selling that data, but such datacould be packaged, structured, or mined differently depending on the application for which it was being sold. For advertisers, Facebook's network presented advertisers and Facebook itself with entirely new social signals, such as relationships, events, friendships, and granular interests. Movies, music, and bookswere inherent parts of a user's profile. The amount of information in Facebook's network that could be mined as social data was unprecedented—and Facebook received all that data daily from its millions of users in the United States and worldwide.

45. The data Facebook collected was uniquely social, derived from the engaged

interactions and strong identity of Facebook's users. Twitter, a public-facing social network, loosely enforced identityand never required users to disclose granular details about themselves. Facebook stood alone in this regard, with a clear product emphasis on individuals and their connections to others. In 2010, Google, Yahoo, and the other major online advertising sources competed in an entirely different market—one based on search data. The data Facebook had at its disposal was not fungible with search data—it was actionable data about individual users, with their identities fully ascertainable.

46. By 2010, Facebook stood alone as the dominant player in the newly emergent market forsocial advertising—a market in which Facebook's own users provided Facebook with a constant streamof uniquely valuable information, which Facebook in turn monetized through the sale of advertising. Advertisers, finding no substitute from any other company, paid top dollar for Facebook's powerful targeting and actionable data, and some of those advertisers—wittingly or not—even fed crucial data about themselves, their products, and the efficacy of their targeting back to Facebook's network.

47. As Facebook itself explained to third-party developers in May 2007, Facebook's core value proposition and business model was "providing access to a new kind of data—social data, which enables you to build applications that are relevant to users." With respect to that data, Facebook told developers: "You are on a level playing field with us. You can build robust apps, not just widgets. Complete integration into the Facebook site." By 2010, it was clear that Facebook's entire business wasselling this new form of "social data" and that it would do so by selling access to developers and selling advertisements targeting Facebook's network of engaged and active users.

C. The Social Data Barrier to Entry

48. As Facebook's dominant position emerged in 2010, powerful network effects and feedback loops took hold and solidified that position. Data provided by users made Facebook's networkmore valuable, thereby attracting more users to the network. As a typical use case, a Facebook user wouldinvite his closest friends and family, who would then invite and

engage with other friends and family members who existed on the network. A familiar feedback loop—a virtuous circle—emerged, rapidly growing Facebook's user base.

49. The content generated by this user base, in turn, increased the value of the Facebook network. With each photograph, relationship status, check-in, or post by a Facebook user, the Facebooknetwork became more valuable, not just as a means of communicating with directly connected acquaintances, but as a means of learning about more remotely connected ones.

50. As Samuel Lessin, then Facebook's VP of Product Management, explained to Mark Zuckerberg in an internal email on October 26, 2012, the data Facebook collects makes Facebook progressively more proficient at collecting and monetizing data:

> One of the things that puts us currently in a very defensible place is the relationship we have created between the people using Facebook all the time, and us having the information we need to make Facebook a better product. This is the fundamental insight in something like coefficient. ***Weknow more about what people want to see because people look at more stuff on our platform.*** In this respect, while there are other ways to get close, it feels viscerally correct that there is an ROS dynamic at play, ***the more people that use the system, the more information we have on how to make more people use the system***.

(emphasis added).

51. A barrier to entry emerged from this feedback loop. To compete with Facebook, a new entrant would have to rapidly replicate both the breadth and value of the Facebook network—a task a mere clone of that network could not accomplish. Indeed, to compete with Facebook, a competitor wouldnot only have to build its own vast network, but would have to draw active social engagement on a massive scale—which likely would require drawing a vast quantity of Facebook users away from that platform. The costs to switch would be massive: an entrant-competitor would have to present an overallvalue proposition to users that not only exceeded that of Facebook's entrenched network, but one that didso handily. Moreover, to compete with Facebook's virtuous circle, the value delivered by an entrant- competitor platform

would have to facilitate social data mining that would create even more value for users, developers, and advertisers. This barrier to entry is referred to throughout this Complaint as the Social Data Barrier to Entry ("SDBE").

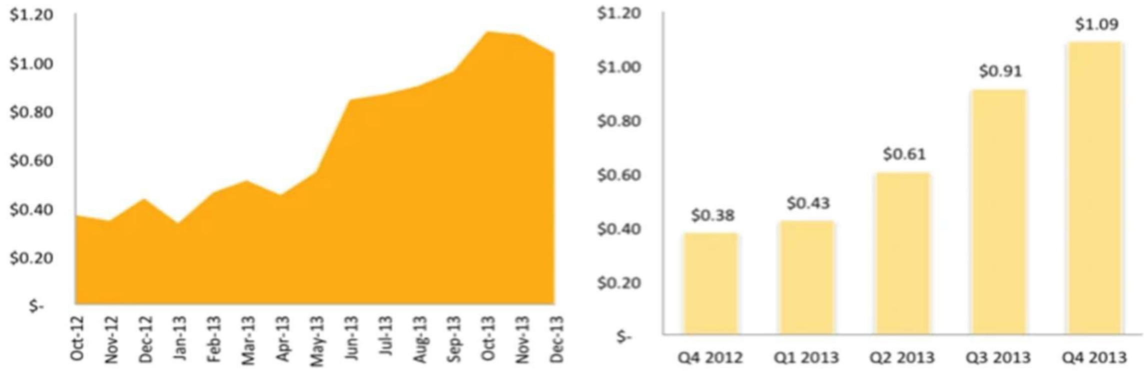
52. The SDBE protects Facebook's ability to control and increase prices in the SocialAdvertising Market without the pressures of price competition from existing competitors or new entrants. Because of its monopoly power in the Social Advertising Market and the SDBE, Facebook has been ableto consistently increase the price it charges for social advertising. And this is exactly what Facebook hasdone since it obtained its dominant position in 2010.

53. From 2011 to 2012, for example, Facebook massively increased the prices it charged for its advertisements—one of the primary sales channels for its social data. That year, costs per thousand impressions (CPM) on Facebook increased by 41%, with a 15% increase in the last quarter of 2011 alone.Cost per click (CPC), which is a measure of advertising costs paid on a by-click basis, rose 23% that same year. Facebook increased prices for social advertising as it also grew the number of advertisementsit displayed on its site, indicating monopoly power in the Social Advertising Market.

54. Facebook maintained that power over its prices through 2013, with a 2.9x increase in CPMs year over year. The increase came as overall advertising revenues increased yet again—that year by a staggering 83% over the last.

55. These price increases would not be possible without the SDBE. If a rival network existedwith comparable social data available for sale through advertising, Facebook's price

Figure 1: Retail Facebook CPM, Q4 2012 – Q4 2013



increases would have been met with customer migration to the comparable rival. But Facebook had no such rival and was unfettered in its ability to increase process, even while rapidly increasing its supply of data for sale through advertisement.

56. Once Facebook had achieved dominance in the Social Advertising Market, its position only improved – and became more entrenched. The more advertising Facebook sold, and the more social data Facebook collected and packaged for sale, the more effective Facebook became at selling advertising, targeting users, and commercializing direct access to its users' social data (e.g., through APIs). This, in turn, made entry by a new rival impossible or prohibitively costly, thereby allowing Facebook to increase prices and make additional investments that deepened the SDBE moat surroundingits business.

D. Google's Failed Entry into the Social Advertising Market

57. In 2010, Google became desperate to enter the Social Advertising Market. It had tried several times to do so before, but each foray was met with failure. Google's Orkut social network, whichwas launched days before Facebook, was quickly overtaken. Wave, Google's social communication platform, never achieved any traction with users. And Google's Buzz social network—built on the backof its highly successful Gmail product—imploded quickly in early 2010.

58. Google's next attempt to enter the market attacked Facebook's functionality head-on, which meant attempting to penetrate the powerful SDBE protecting Facebook's business. Google made a massive, unprecedented investment of resources into building a product with enough value to lure usersaway from Facebook's broad, highly engaged social network.

59. In 2010, Google's Vic Gundotra became the company's Chief Architect. Gundotra pitcheda new social network to Larry Page, Google's cofounder, who returned as CEO of the company in 2011.Gundotra repeated an ominous refrain, "Facebook is going to kill us. Facebook is going to kill us," whichfrightened Page into action.

60. Page greenlit a new product, Google+. Initially, Google+ sought to leverage

Google's YouTube product to build its social network, requiring a Google+ account for access to certain key features of YouTube. In the face of significant user resistance, Google backed away from that requirement. Nonetheless, Google attempted, through Google+, to build out a "social graph" that wouldleverage a common user identity across Google products, including YouTube and Gmail.

61. In early 2011, Google began what insiders now refer to as "the 100-day march" toward launch of Google+. The product Google planned to deliver was, by any fair account, largely undifferentiated from what Facebook offered in terms of product features and functionality. By the summer of 2011, the planned features for Google+ included a continuous scroll product called the "stream" (a clone of Facebook's "feed" product); a companion feature called "sparks," which related the"stream" to users' individual interests; and a sharing app called "Circles," a purportedly improved way to share information with one's friends, family, contacts, and the public at large.

62. Unlike Google's past products, Google+ was not designed to organically grow and scale from small beginnings. From the outset, Google invested massive amounts of resources to bring a finished, full-scale social network to market. Calling the project "Emerald Sea," Google conscripted almost all of the company's products to help build Google+. Hundreds of engineers were involved in theeffort, which remained a flagship project for Page, who had recently reassumed the Google CEO role. Google's Gundotra was quoted explaining that the product that would become Google+ was a transformation of Google itself: "We're transforming Google itself into a social destination at a level andscale that we've never attempted—orders of magnitude more investment, in terms of people, than any previous project."

63. The amount of resources Google brought to bear stood in stark contrast to its previous attempts at penetrating the Social Advertising Market. Google had dedicated barely a dozen staff members to its previous failed social network product, Buzz. At its peak, Google+ involved 1,000 employees from divisions across the country. Google, for example, ripped out

its elaborate internal video conferencing system and forced employees to use the Google+ Hangouts video chat feature, which one internal employee described as “janky.” Employee bonuses were tied to the success of Google+. And theentire project was confined to a level of secrecy never before seen at Google.

64. Google+ was released on June 28, 2011. The product included the “stream,” the “Circles”app, the “Hangout” video chat and messaging product, and a photo sharing product. The resemblance toFacebook was striking. As one internal Google employee commented: “this looks just like Facebook. What was the big deal? It’s just a social network.” Another Google employee was quoted as saying, “Allthis fanfare and then we developed something that in the end was quite ordinary.” One thing was indisputable: with the release of Google+, Google had challenged Facebook head-on by effectively cloning Facebook’s product.

> Because Google’s user base was already massive, the Google+ product attracted millionsof users shortly after launch. But though these users signed up for Google+, Google quickly found out they were not using the product. As one former Google employee explained:
>
> It was clear if you looked at the per user metrics, people weren’t posting, weren’t returning and weren’t really engaging with the product. Six monthsin, there started to be a feeling that this isn’t really working.

65. The problem for Google+ was the powerful network effect that reinforced the SDBE thatprotected Facebook. Google’s clone of Facebook did not present enough new value to overcome massivenetwork-based switching costs—the cost to Facebook users of shifting away from an existing networkedproduct in which the users had actively invested their social data for years.

66. Paul Adams, a former Google+ user-experience team member, summed it up succinctly when asked why Google+ had failed:

> What people failed to understand was Facebook and network effects. . . .

> It's like you have this grungy night club and people are having a good timeand you build something next door that's shiny and new, and technically better in some ways, but who wants to leave? People didn't need another version of Facebook.

67. By 2014, Google+ was declared a failure and Gundotra, its founder, eventually left Google. Within just a few years, Google—with all of its resources, developers, and existing user base—failed entirely to overcome the SDBE protecting Facebook. As long as Facebook controlled the data derived from an engaged and active user base, it could continue to keep that user base active and engaged.

68. The only way to disrupt this virtuous circle was with a rival product that provided significantly more or different value than Facebook, and that itself was propelled to scale by powerful network effects.

VI. A THREAT TO FACEBOOK'S MONOPOLY: THE RISE OF SMARTPHONES ANDMOBILE APPS

A. The Mobile App Revolution

69. In 2009 and 2010, as Facebook emerged the undisputed winner of the social media wars,another new market had begun to take hold. The launch of the Apple iPhone in 2007 created a market for a new type of cellular phone: one with a user interface capable of robust Internet connectivity and messaging. No longer constrained by numeric keypads for texting—or clunky, permanent alphanumeric keyboards attached to phones, such as with the Treo or Sidekick cellular phones—the iPhone dynamicallydisplayed a multi-touch keyboard and came equipped with a full-featured web browser that rendered complete web pages.

70. By the summer of 2008, Apple's newest iPhone, the iPhone 3G, was released with onboardGPS and other hardware upgrades. Accompanying the release of the new iPhone was a new store for third-party applications that would run natively on the iPhone: the Apple App Store, which opened for business on July 10, 2008, the day before the release of the iPhone 3G.

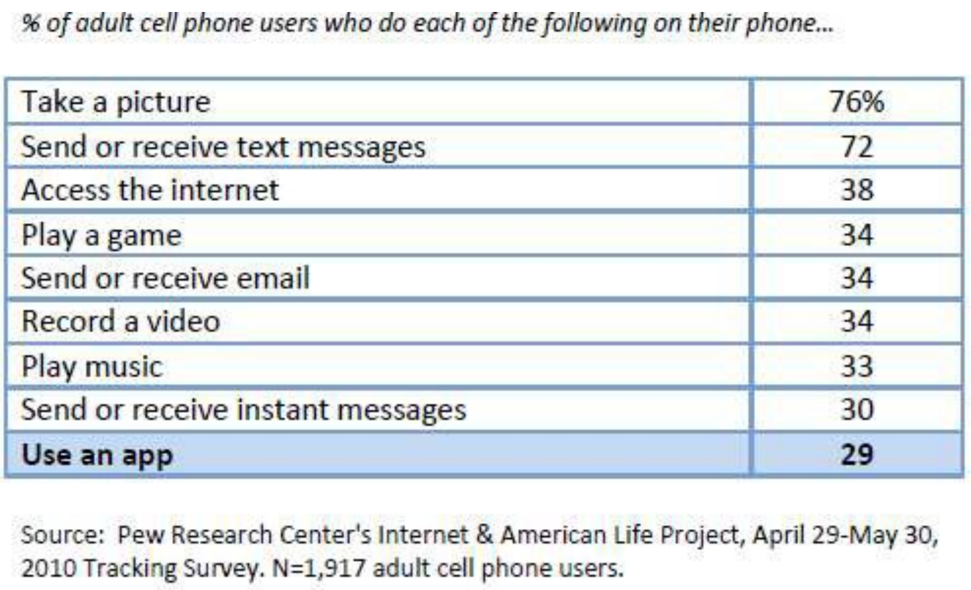
71. Developers who launched their third-party applications via the App Store reaped huge rewards. There were approximately 500 apps available at the App Store's initial launch.

Games using theiPhones accelerometer became immediate successes, some quickly earning hundreds of thousands of dollars by selling downloads for just a few dollars each. Applications that exploited the new GPS functionality in the iPhone also quickly became popular. By September 2008, the Apple App Store had racked up 100 million downloads, and by 2009, it hit 1 billion. iPhone apps had become a new means todeliver scaled value to countless users.

72. Google also launched what became its Play Store (initially known as Android Market) in2008. It soon overtook Apple's App Store in terms of overall volume, with 82% growth. The mobile apprevolution had begun.

73. Mobile apps rapidly proliferated, with huge opportunities for further growth—as the lion'sshare of cell phone activity by 2010 had become something other than making phone calls. For example,a 2010 Pew Research survey showed that taking pictures and sending text messages had become the mostcommon uses for cellular phones among adults, with more than a third of adult cell phone users accessing the Internet, playing games, emailing, recording video, or playing music through their cell phones. At thesame time, 29% of adult cell phone users had used a downloaded app.

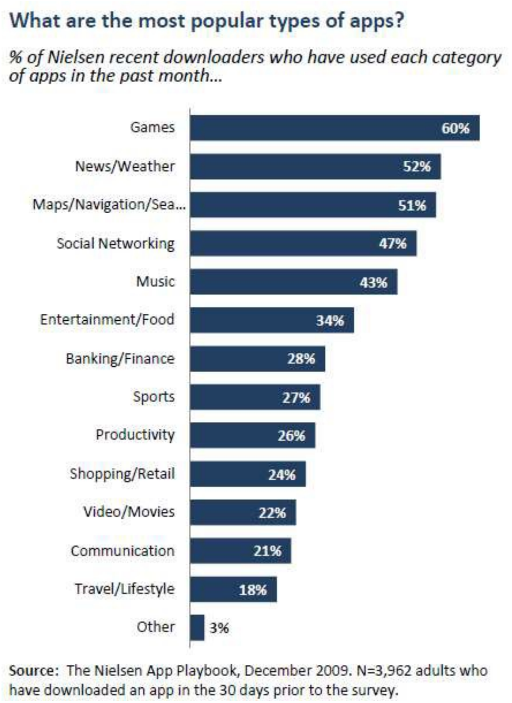
74. A 2010 Nielsen survey showed that games, news/weather, maps and navigation, and social networking were the most popular apps on cellular phones.



% of adult cell phone users who do each of the following on their phone...

Take a picture	76%
Send or receive text messages	72
Access the internet	38
Play a game	34
Send or receive email	34
Record a video	34
Play music	33
Send or receive instant messages	30
Use an app	**29**

Source: Pew Research Center's Internet & American Life Project, April 29-May 30, 2010 Tracking Survey. N=1,917 adult cell phone users.

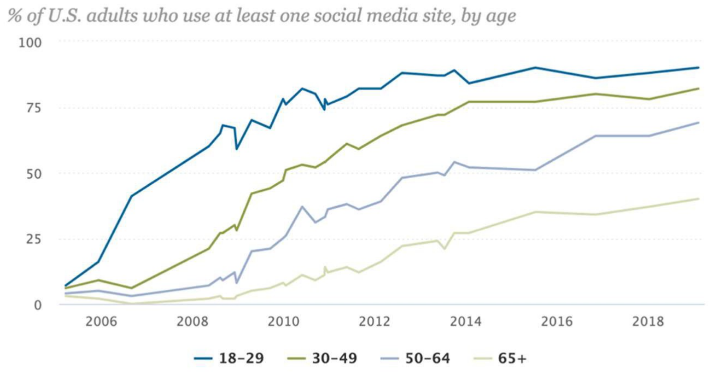


What are the most popular types of apps?

% of Nielsen recent downloaders who have used each category of apps in the past month...

Source: The Nielsen App Playbook, December 2009. N=3,962 adults who have downloaded an app in the 30 days prior to the survey.

75. Notably, mobile apps resonated most strongly with the demographics that had recently adopted social media and were providing their data to Facebook in droves. App users among cell phoneowners were disproportionately younger, with 44% of app users in 2010 under the age of 20 and another41% between the ages of 30 and 49. These were the same demographics that were rapidly adopting socialmedia as part of their lives and providing Facebook with the social data that built and maintained the SDBE that protected its business.



% of U.S. adults who use at least one social media site, by age

Source: Surveys conducted 2005-2019.

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76. Many of the mobile apps that were rapidly attracting users were doing so because they presented their own specialized value propositions. These apps had to be specialized

because cellular phone screens were smaller, particularly in 2010, and mobile traffic was driven by specialty software, often designed for a single purpose. Users signed up for these apps with their e-mail addresses and personal information and interacted directly with the apps.

77. As WIRED Magazine described in 2010, a typical user moved from app to app, each with some specialized use:

> You wake up and check your email on your bedside iPad—that's one app.During breakfast you browse Facebook, Twitter, and the New York Times—three more apps. On the way to the office you listen to a podcast on your smartphone. Another app. At work, you scroll through RSS feedsin a reader and have Skype and IM conversations. More apps. At the end of the day, you come home, make dinner while listening to Pandora, play some games on Xbox Live, and watch a movie on Netflix's streaming service.

78. In 2010, Morgan Stanley projected that within five years, the number of users who accessed the Internet from mobile devices would surpass the number who accessed it from PCs. The Internet was at an inflection point—the World Wide Web was no longer the dominant way to access information. Users were obtaining their information from specialized walled gardens, and Facebook's own walled garden was one app away from being superseded.

79. The years leading up to 2010 saw the rise of streaming apps, such as Netflix and Pandora,and e-book readers, such as Kindle and iBooks. Apple's 2010 list of top-grossing iPhone apps included mobile games such as Angry Birds, Doodle Jump, Skee-Ball, Bejeweled 2 + Blitz, Fruit Ninja, Cut the Rope, All-in-1 GameBox, the Moron Test, Plants vs. Zombies, and Pocket God. Facebook's mobile apptopped the list of free downloads in the App Store, along with Words with Friends, Skype, and the Weather Channel App.

B. Facebook Recognizes the Looming Threat Presented by Mobile Applications

80. By 2011, Facebook realized that it had fallen behind. Facebook had just debuted its new "Timeline" product, a controversial modification of the Facebook feed that generated dynamic content for each user rather than a static series of posts visible to the user. Facebook had spent the last eight months prioritizing its desktop experience and its new Timeline product.

But while it did so, mobile applications continued their meteoric rise.

81. Facebook's own mobile application was built on a technology called HTML5, which at the time was good for building web pages but not for building mobile apps native to iOS and Android smartphones. As a result, Facebook's mobile app was buggy, prone to crashes, and painfully slow. As Zuckerberg would lament years later about HTML5, "We took a bad bet."

82. Zuckerberg reflected in 2018 that Facebook had fallen behind when mobile apps emerged:

> One of my great regrets in how we've run the company so far is I feel likewe didn't get to shape the way that mobile platforms developed as much as would be good, because they were developed contemporaneously with Facebook early on. I mean, iOS and Android, they came out around 2007, we were a really small company at that point – so that just wasn't a thing that we were working on.

83. As mobile apps rose, Facebook's desktop product acquired users at a slower pace. All ofthis occurred as Facebook was planning its initial public offering. Facebook knew that its position was eroding and that if mobile growth continued, its IPO debut would be in the midst of material changes toits business, undermining Facebook's financial and qualitative disclosures to public investors.

84. But there was no avoiding the issue. Facebook held its IPO on May 18, 2012. By the timeFacebook released its first annual report, the trend was unmistakable—the transition to mobile devices from desktop web-based applications posed an existential threat to Facebook's business. In its 2012 Form10-K, Facebook disclosed this risk to shareholders as one of the factors that affected its bottom line:

> ***Growth in the use of Facebook through our mobile products as a substitute for use on personal computers may negatively affect our revenue and financial results***.
>
> We had 680 million mobile MAUs in December 2012. While most of our mobile users also access Facebook through personal computers, we anticipate that the rate of growth in mobile usage will exceed the growth inusage through personal computers for the foreseeable future and that the usage through personal computers may decline or continue to decline

> in certain markets, in part due to our focus on developing mobile products toencourage mobile usage of Facebook. For example, during the fourth quarter of 2012, the number of daily active users (DAUs) using personal computers declined modestly compared to the third quarter of 2012,including declines in key markets such as the United States, while mobile DAUs continued to increase. While we began showing ads in users' mobile News Feeds in early 2012, we have generated only a small portion of our revenue from the use of Facebook mobile products to date. In addition, wedo not currently offer our Payments infrastructure to applications onmobile devices. If users increasingly access Facebook mobile products as a substitute for access through personal computers, and if we are unable tocontinue to grow mobile revenues, or if we incur excessive expenses in thiseffort, our financial performance and ability to grow revenue would be negatively affected.

C. The Facebook Platform

85. Although Facebook faced a looming threat from mobile applications, it maintained an important source of leverage: its social data. Facebook possessed (and continued to receive) vast quantities of information about its massive user base, including how each user was connected to others. This information was valuable to both new and existing mobile applications, which could leverage Facebook's social data to obtain new users and to build novel social features, functions, and apps.

86. Facebook referred to its network as its "Graph," coined after a mathematical construct that models connections between individual nodes. The Facebook Graph contained user "nodes," with connections and information exchanged among nodes as "edges." Facebook coined the term "Open Graph" to describe a set of tools developers could use to traverse Facebook's network of users, includingthe social data that resulted from user engagement.

87. Importantly, Open Graph contained a set of application programming interfaces ("APIs") that allowed those creating their own social applications to query the Facebook network for information.As Facebook explained in its 2012 Form 10-K:

> ***Open Graph.*** Our underlying Platform is a set of APIs that developers canuse to build apps and websites that enable users to share their activities withfriends on Facebook. As Open Graph connected apps and websites becomean important part of how users express themselves, activities such as the books people are reading, the

> movies people want to watch and the songs they are listening to are more prominently displayed throughoutFacebook's Timeline and News Feed. This enables developer apps and websites to become a key part of the Facebook experience for users and can increase growth and engagement for developers.

88. Open Graph, along with other Facebook products, such as its NEKO advertising and Payments products, comprised Facebook's Platform. The Platform was vital to Facebook's business because it ensured that engagement continued on Facebook. Without the Platform, Facebook would be required to build applications that increased the value of its network itself—meaning that Facebook wouldhave to try to predict what applications users wanted; design, code, and scale those applications across its user base and network; and bear the risk and resource drain of guessing wrong and making mistakes.

89. Facebook did not have the resources to do this, so it decided instead to allow third partiesto build applications for the Platform. As Mark Zuckerberg observed in a February 2008 email to Facebook's VP Engineering for Platform Michael Vernal, a senior Zuckerberg lieutenant who was in partresponsible for creating Open Graph:

> Platform is a key to our strategy because we believe that there will be a lotof different social applications And we believe we can't develop all of them ourselves. Therefore . . . . It's important for us to focus on it because the company that defines this social platform will be in the best position to offer the most good ways for people to communicate and succeed in the long term.

90. Put simply, Facebook could either speculate on new social applications by building themitself or it could provide a platform for others to do so. For years, Facebook opted to provide a platform until it was able to develop its own social applications.

91. But Facebook also recognized that developers on its Platform could potentially pose a competitive threat. In its 2012 annual report, Facebook disclosed the following significant risk factor to its operations:

> In addition, Platform partners may use information shared by our users through the Facebook Platform in order to develop products or features thatcompete with us. As a result, our competitors may acquire and engage users at the expense of the growth or

> engagement of our user base, which may negatively affect our business and financial results.

92. Thus, Facebook knew that competition could come from its own third-party application developers. But Facebook nevertheless actively sought developers to build applications on its Platform because of the potential to extract profits from the applications these developers built and the users theyattracted to, and engaged on, Facebook's network.

93. As Facebook explained to its investors in 2012, maintaining a Platform on which developers could build applications meant more engagement and therefore greater ad revenues for Facebook:

> Engagement with our Platform developers' apps and websites can create value for Facebook in multiple ways: our Platform supports our advertising business because apps on Facebook create engagement that enables us to show ads; our Platform developers may purchase advertising on Facebookto drive traffic to their apps and websites; Platform developers use our Payment infrastructure to facilitate transactions with users on personal computers; Platform apps share content with Facebook that makes our products more engaging; and engagement with Platform apps and websitescontributes to our understanding of people's interests and preferences, improving our ability to personalize content. We continue to invest in toolsand APIs that enhance the ability of Platform developers to deliver products that are more social and personalized and better engaged people on Facebook, on mobile decides and across the web.

94. Facebook's Platform was valuable to Facebook in several important ways.

95. First, the Platform meant that new applications would be built on Facebook's network, increasing the value of Facebook's network as the applications became more popular. The increased engagement with Facebook as a result of these new applications translated to better-targeted content andhigher advertising revenues.

96. Second, Facebook would not need to spend significant resources to develop new applications or test new business models—third parties would do that instead. Facebook could merely wait for an application built for its Platform to gain widespread adoption, then either

build a competing application or passively glean the benefits of that popular application's user engagement, including valuable new social data for Facebook and its network.

97. Third, access to Facebook's network was itself valuable to third-party developers, so Facebook could charge developers—most notably, through API access and advertising purchases—to access Facebook's Platform and the social data it collected from Facebook's massive number of engagedusers.

D. The Profitable Open Graph Platform and Mobile Install Business

98. Facebook continued to struggle to catch up with the new onslaught of mobile applications,but it recognized that the new apps required aggressive user growth to be profitable. Among other things,Facebook's APIs allowed mobile app developers to query the friends of a person's friends, which allowedmobile applications to find other users who might be interested in using their apps.

99. Mobile apps also could use Facebook to communicate across Facebook's network, eitherdirectly with a user's friends or with others not directly connected with the user. A mobile payment application, for example, could enable two strangers to pay each other, even if they were not directly connected on Facebook—so long as both of them existed somewhere on Facebook's Platform. A user ofa dating application, such as Tinder, could use Facebook's APIs to find a compatible date, either in the extended network of one's friends or beyond—anywhere on Facebook's Platform.

100. Facebook quickly realized it could monetize the value of its network through third-party mobile applications, and it moved aggressively to do so, beginning with games built to run on Facebook'sPlatform. Those games, many of which were social games that allowed users to play with and against each other, sought above all else new users to increase their adoption. Facebook's Vernal sought to obtaina beachhead with these applications, monetizing each additional game install that resulted from the use of Facebook's Platform or from Facebook's advertising product, NEKO.

101. For example, Facebook included ads as "stories" on user timelines that indicated

whether the user knew other users who were playing a particular game. Facebook then monetized such advertisements when the game obtained new users from them. As Vernal explained in a May 2012 e- mail:

> The biggest/most efficient market segment for advertising on mobile todayis driving app installs. This is at least partly because it’s the most measurable—if you know that you get $0.70 from every game you sell, then in theory you can afford to pay up to $0.69/install. This kind of measurability allows for maximal bidding.
>
> So, what we’re trying to do is kickstart our sponsored stories business on mobile by focusing on one particular type of story (is-playing stories) andone market segment (games), make that work really well, and then expandfrom there.

102. Facebook thus leveraged its most valuable asset—the information it had about its users, their interests, and most importantly, their friends—to make money from the proliferation of mobile games.

103. Games like Farmville, a mobile application that allowed players to create their own simulated farms, quickly took off because of Facebook’s Platform. Facebook increasingly recognized that it could obtain engagement from users through the game itself.

104. This strategy led to a broader one, in which Facebook drove app installs by allowing developers to advertise to its user base and traverse Facebook’s social network through the Facebook APIs. Facebook collected a fee for each app install that resulted from its network. Vernal outlined the plan in detail:

> Roughly, the plan:
>
> 1/ Create new iOS + Android SDKs, because the current ones are terrible.Ship Thunderhill so we get even broader adoption of our stuff.
>
> 2/ Wire them up to make sure we know when you’re playing a game (so we can generate the same kind of is-playing stories we can on canvas).
>
> 3/ Generate a bunch of effective, organic distribution for these

> games via our existing channels (news feed, net ego on both desktop + mobile). Ship send-to-mobile, which allows us to leverage our desktop audience to drivemobile app traffic.
>
> 4/ Create an even better app store than the native app stores (our app center)and make a lot of noise about it, so developers know that they should be thinking about us to get traffic to their mobile apps.
>
> 5/ Introduce a paid offering, probably cost-per-install (CPI) based, where you can pay us to get installs from your mobile app. Primary channels forthis paid distribution are News Feed and App Center (on desktop + mobile)as well as RHC on desktop.

105. The strategy was clear, not just for gaming, but for mobile apps. Facebook would make money by allowing app developers to leverage its user base. Facebook would advertise social games to its users by plumbing their social data—including data about when they played games and which of theirfriends played them—and in exchange, Facebook would receive some amount of money per install, whichwould be the app developer's cost-per-install (CPI). The same plan would work for mobile applications generally.

106. By the end of 2011 and the beginning of 2012, Facebook began discussing other ways tomonetize its Platform, including its Open Graph APIs. One way was to sell API access based on usage. Zuckerberg and top executives at Facebook extensively debated a tiered approach to API access. Facebook deliberated over a pricing model for API access, and internally decided that it would be possibleto sell API access to third-party developers. Facebook also decided that it could bundle API access withthe ability to advertise on Facebook. However, as explained below, Facebook gave up the profits it couldglean from API access for the chance to dominate the Social Advertising Market entirely, excluding competitors (both actual and potential) and leveraging network effects to achieve and maintain monopoly power.

VII. FACEBOOK WEAPONIZES ITS PLATFORM TO DESTROY COMPETITION

A. Facebook Makes Plans to Remove Vital Friends and News Feed APIs and Refusesto Sell Social Data to Competing Application Developers

107. Although Facebook had made significant amounts of revenue and profit selling

access toits social data through its APIs and its NEKO advertising system and had planned to expand that business,it chose not to, sacrificing those significant profits.

108. By the end of 2011 and the beginning of 2012, Zuckerberg along with Facebook's Vice President of Growth, Javier Olivan, its VP of Product Management, Samuel Lessin, and Michael Vernalinternally debated a plan to prevent third-party developers from building their own competing social networks that could be capable of generating engagement and social data independent of Facebook's Platform.

109. Emerging mobile applications such as Line, WeChat, and Instagram were creating their own vast user bases with identity and login features separate from the Facebook Platform. Their increasing ubiquity posed an existential threat to Facebook's core business, which relied heavily on engagement from its user base. These applications provided quintessentially social applications, such asimage sharing, messaging, and payments—a direct threat to Facebook's own applications, including Facebook's own fledgling Messenger application.

110. Mobile applications were rapidly eating away at Facebook's dominance, which relied heavily on its web-based desktop product. Zuckerberg openly acknowledged that its desktop applicationswere not the future and that native phone apps would dominate the mobile web in the future.

111. Zuckerberg therefore sought to consolidate core applications into its own centralized Facebook application, noting in a March 2012 Q&A with employees that Facebook was "building towards social Facebook versions where you can use the individual app or the Facebook version." That is, users could "replace whole parts of your phone with these Facebook apps and [they] will be a whole package for people."

112. Beginning in the fall of 2011 and well into 2012, Mark Zuckerberg and his chieflieutenants, Lessin and Vernal, planned to address the looming mobile applications threat. Their solutionwas a scheme to disrupt the massive growth of mobile applications by attracting third-party developers to build for Facebook's Platform and then remove their access

to the APIs that were most central to their applications. They would accomplish this by leveraging Facebook's "Friends" and "Timeline" APIs, as well as other vital APIs, including those relating to messaging.

113. The Friends APIs let third-party developers traverse the Facebook Graph, searching through a user's friends as well as the friends of their friends. Zuckerberg and his executives proposed modifying the APIs to deny third-party developers access to information about a user's friends (and the friends of their friends) unless that developer's application was already installed by a user's friends to begin with. This ensured that new applications could not obtain new users or use Facebook's social datato increase the value of their application.

114. Facebook also foreclosed developers from continuing to extract information about a user'sfriends from their timeline or news feed. Thus, third-party applications that relied on the stream of information that flowed through a user's news feed, such as a post about a friend of the user getting engaged or sharing a news article, would be abruptly left with none of the social data they needed to function.

115. Removing access to these APIs halted the growth of tens of thousands of third-party applications that relied on these essential APIs and were, in Facebook's view, threatening Facebook's dominance by eroding the SDBE that protected Facebook's business.

116. Facebook's plan prevented any competitive third-party application from buying social data from Facebook, either through its Platform APIs or through its advertising Platform. As Vernal explained to Lessin in August of 2012, Facebook would "not allow things which are at all competitive to'buy' this data from us."

117. Facebook thus refused to sell its social data to any competitive third-party developer, sacrificing significant short-term profits in exchange for a competitive advantage in the Social Advertising Market. If not for the prospect of driving these competitors out of the markets in which Facebook competed, the decision to refuse to sell social data to third-party developers made no economic,technical, or business sense.

118. Third-party developers with successful applications increased the value of

Facebook's overall network by increasing engagement and generating the very social data Facebook sold through itstargeted advertising channels, including to developers. As Zuckerberg had observed years earlier,Facebook itself could not broadly develop new third-party apps or anticipate what apps would be successful, so it relied on third parties to do so. Refusing API and social data access to third parties meantthat they could not develop the applications that were vital to Facebook's growth, engagement, and advertising revenue. Facebook decided to deliberately sacrifice the value its third-party developers provided to secure dominance in the Social Advertising Market.

B. Facebook's Social-Data Heist

119. In May 2012, Zuckerberg decided to use the threat of blacklisting from its Platform to extract precious social data from some of Facebook's competitors. He instructed his executives to quietly require "reciprocity" from major competitors that used Facebook's Platform. The reciprocity Zuckerbergdemanded was the very lifeblood of these competitors' businesses—the social data harvested from user engagement on their competing networks.

120. By the middle of 2012, Facebook began to block some of its competitors from using its Platform and thereby obtaining Facebook's social data. Facebook had already blocked Google, includingits competing social network Google+, from access to Facebook's APIs and advertising platform. With respect to Twitter, Instagram, Pinterest, and Foursquare, Facebook would demand "reciprocity" or blacklist them. Reciprocity, of course, meant that these competing social networks would have to hand over their most valuable asset—their social data—to their rival Facebook.

121. If rivals did not comply with Zuckerberg's demands to hand over their social data to Facebook, Facebook would simply take it. In May 2012, Vernal directed his subordinates, Douglas Purdy (Director of Engineering for Platform) and Justin Osofsky (VP of Global Operations), to build "our ownhacky scraper" and a "bunch of scrapers" to crawl rival sites like Twitter and Instagram and harvest theirsocial data—with or without their consent. If Twitter or Instagram refused to agree to Zuckerberg's "reciprocity" proposition, Facebook would use the

scrapers to obtain the data instead.

122. In August 2012, Facebook considered broadening its list of companies to shake down forsocial data—or to block entirely from Facebook's Platform. That month, Facebook's then VP of Business and Marketing Partnerships, David Fischer identified other potential product categories and competitivecompanies in each category to block:

> I'd expect that a large part of the market for our network will come from current and potential competitors. Here's the list that Jud worked up of what we'd likely prohibit if we were to adopt a ban on "competitors" usinga broad definition:
>
> - Social network apps (Google+, Twitter, Path, etc.)
> - Photo sharing apps (Picasa, Flickr, LiveShare Shutterfly, etc.)
> - Messaging apps (WhatsApp, Viber, Imo, KakaoTalk, etc.)
> - Local apps (Google+ local, Google Offers, Yelp, yp, etc.)
> - Social search apps (HeyStaks, Wajam, etc.)
> - Platforms (Google Play, Amazon, etc.)

123. Facebook thus identified its direct, horizontal competitors for social data, including thosecompetitors that had, or could create, rival social advertising platforms. These categories of competing applications, particularly on mobile platforms, threatened Facebook's business because they created social networks independent of Facebook, each capable of generating their own valuable social data. If Facebook lost control over these companies, it would lose access to the social data they generated, whichmeant Facebook's own product could not drive engagement and sell advertising.

124. In August 2012, Facebook gave a presentation to its Board of Directors that included various revenue models to monetize its Platform, including its APIs. The Board understood that Facebookcould monetize its Platform by charging per company, per application, per user, or per API call.

125. But Facebook opted to do none of those things. Instead, it decided to sacrifice those profitsin the short term to obtain complete control over the growing mobile application and advertising markets,thereby maintaining and furthering its dominance of social data and the Social Advertising Market.

126. Facebook's plan was to instead block competitors from using its Platform, thereby preventing them from eroding the SDBE that protected Facebook's business. In the case of a select few companies with social data that Facebook needed to maintain and grow its own business, however, Facebook would coerce them into agreements to share their most valuable social data with Facebook. Ifthey refused, Facebook would blacklist them and take it from them anyway with its own crawling software that would scrape their public-facing site for information.

127. In September 2012, Zuckerberg formalized his order to shut down the Friends and News Feed/Timeline APIs and to coerce rivals into providing their valuable data to Facebook on pain of blacklisting. On October 30, 2012, Vernal notified his subordinates of Zuckerberg's decision:

> We are going to dramatically reduce the data we expose via the Read API . . . . We are going to change friends.get to only return friends that are alsousing the app Since friends.get will only returned other TOSed users'data [data from users that agreed to an application's terms of service], thatmeans we no longer need the friends' permissions. We are going to remove/whitelist access to the Stream APIs [the News Feed API]. We are going to limit the ability for competitive networks to use our platform without a formal deal in place We are going to require that all platform partners agree to data reciprocity.

128. This decision meant several things: (1) when a third-party application called the Friends APIs, it could not obtain information about a user's other friends unless those friends already had installed the application; (2) the News Feed APIs would no longer provide information about a user's connections; (3) access to those API could be "whitelisted" for third-party developers that were offered—and agreed to—data reciprocity; and (4) reciprocity would be required for any access to the APIs.

129. In November 2012, Osofsky, who was then head of Facebook's Platform, summarized thepolicy changes required by the decision:

> Policy changes: define competitive networks + require they have a deal with us, regardless of size. Maintain size-based thresholds for all other developers to force business deals. Require data reciprocity for user extended info to ensure we have richest identity.

130. Facebook knew that these changes would eliminate the “growth channel used by 23% of all Facebook apps” and that 89% of the top 1,000 iPhone apps relied on the full friends list API, with 75% of the top 1,000 iPhone apps relying on the Friends permissions APIs. Facebook determined that popular applications on its platform with millions of customers would break as a result of the decision including FarmVille, ChefVille, CityVille, Skype, Spotify, Xobni, Texas Holdem, Yahoo, Trip Advisor, Microsoft’s Birthday Reminders, Samsung’s clients, Glassdoor and dozens of others.

131. On November 19, 2012, Zuckerberg broadly announced his decision to block competitors or require full data reciprocity for continued access. Facebook’s COO Sheryl Sandberg immediately ratified the decision, adding that “we are trying to maximize sharing on Facebook, not just sharing in theworld,” with the note that the distinction was a “critical one” and the “heart of why.”

132. Facebook began preparing its 2013 plan for its mobile advertising business, whichincluded the launch of a new version of its Platform, version 3.0. Platform 3.0 would (according to Facebook) facilitate Facebook’s transition from its desktop advertising business to a mobile advertising business. A central element of the transition plan was the implementation of Zuckerberg’s decision to remove the Friends and News Feed APIs.

133. Vernal explained Zuckerberg’s decision to other Facebook employees in November 2012, noting that he believed the amount of data that Facebook required from competitors was “crazy”:

> [A company must share] every piece of content by that user that can be seen by another user. What Mark is saying is he wants certain partners (I assume not all) to give us news feeds on behalf of their users, which is kindof crazy.

134. Facebook continued to formalize its plan to require the right to crawl the sites of its competitors as a condition of access to its Platform. In November 2012, Facebook's Group Product Manager, Rose Yao explained the scheme:

> We also reserve the right to crawl a partner website for the user's data. Partners cannot blacklist or block Facebook from crawling your site or using the API. If they do, Facebook reserves the right to block the partnerfrom using our APIs The theory behind Action Importers was that we needed to balance the leverage. You can call our APIs and access our data,as long as we can call your APIs (if you have them) or crawl your web site(if not) and access your data. It's one thing to drag your heels, but if we'rethe ones doing the work then we force you to make a decision—either you allow us access to your data, or you block us. If you block us, then it's really easy/straightforward for us to decide to block you. What's changed?***When we first started discussing this, we were talking about doing this only for top partners. I think a lot of folks interpreted this as just a negotiation tactic—we'd just threaten to do this if they didn't cooperate. What's changed between then and now is that this is now very clearly not a negotiation tactic—this is literally the strategy for the read-side platform.***

(emphasis added.)

135. Thus, what began as a negotiation strategy to extract social data from rivals became the foundation of Facebook's Platform strategy. For competitors that posed enough of a threat to create theirown rival network, Facebook required them to hand over the only leverage they had—the social data theyderived from their users' engagement.

136. For some rivals that directly competed, no amount of data would justify access to Facebook's Platform, and for nascent threats that relied on Facebook's platform that did not have any useful data to extract, Facebook's decision was to simply cut off their access to the Friends and News Feed APIs, killing their businesses almost immediately.

137. Vernal expressed concern about the strategy to Zuckerberg in November 2012, noting thathe was skeptical that competitors such as Pinterest would allow Facebook to take their social data. If they,as well as others, did, Facebook would become a central exchange for data collected among competitors. That is, competitors would share the data to Facebook and

Facebook would then share that data back to the competitors that participated in the scheme. ***Facebook would become a data-passthrough mechanism***.

138. In December 2012, despite recognizing that API access, particularly when bundled with Facebook's NEKO advertising platform, was profitable, Facebook decided not to charge for API accessand began full implementation of Zuckerberg's decision.

139. Although Facebook had planned to announce its decision not to allow access to Friends data through its Friends and News Feed APIs in a public blog post, Zuckerberg vetoed that decision in December 2012. Instead, Zuckerberg decided to enforce the decision selectively and covertly after deliberately analyzing Facebook's competitors. Some competitors would be blocked entirely from the APIs, while some select few would be blocked only if they did not provide their own social data to Facebook.

C. Facebook Targets Its Competitors for Reciprocity or Denial of API Access

140. Beginning in January 2013, Facebook began an internal audit of all of the applications that relied on its Platform. It immediately identified competitors to shutdown entirely from accessing Facebook's APIs or advertising platform. Specifically, Zuckerberg ordered that WeChat, Kakao, and Linebe restricted from using the Friends and News Feed APIs and even from advertising on Facebook's NEKO and other platforms.

141. Facebook's David Fischer balked at the decision, noting that blocking competitors even from the advertising platform was irrational and unworkable:

> I continue to believe we should allow ads from competitors for several reasons: We should be secure enough in the quality of our products to enable them to compete effectively in the open marketplace It looks weak to be so defensive. This will be a challenge to enforce. We have manycompetitors and the list will grow in time. How will we judge retailers ande-commerce sites as we grow Gifts, since they arguably are competitors too?

142. Fischer was right. The decision made no rational economic or business sense.

The sole purpose of refusing to sell social data as part of the Facebook Platform or through advertising was to shutout competition and allow Facebook to dominate the Social Advertising Market. Aside from that anticompetitive purpose, the decision to refuse to sell social data or advertisements even at full price wasso facially irrational that Facebook's own employees who may not have been fully privy to theanticompetitive scheme protested at the irrationality of the decision.

143. That same month Facebook's Osofsky pleaded with Vernal to make an announcement that would send a clear signal to developers, but Vernal responded that Zuckerberg had already rejected thatapproach. As Vernal explained, telling developers about the decision means bearing the "very real cost"of "changing the rules," including the "PR cost" of betraying developers that Facebook had induced to build for Facebook's APIs and Platform.

144. That same month, Facebook continued to implement Zuckerberg's decision to blacklist competitors. He ordered that Facebook competitor Vine be "shut down" from Facebook's API and Platform, including from advertising. Facebook had again sacrificed the profits it would glean from increased engagement and advertising revenue as a result of Vine's use of Facebook's Platform in exchange for the exclusion of Vine from the competitive landscape.

145. Indeed, Facebook's mobile advertising platform was growing rapidly, and blocking large companies from using it made no economic sense other than to effectuate Zuckerberg's scheme to preventrivals from competing with Facebook. In a January 20, 2013 email, Facebook's then-Director of Product Management and Platform Monetization team, Deborah Liu reported: "Neko grew another 50% this week! Hit a high of $725k Friday (see charge below). We are now 5% of total Ads revenue and 21% of mobile ads revenue."

146. Lessin responded to the news: "The neko growth is just freaking awesome. Completely exceeding my expectations re what is possible re ramping up paid products."

147. Liu was clear, however, that the increased revenues occurred notwithstanding the blacklisting of formerly large spenders, such as WeChat: "WeChat and other competitive

networks are no longer advertising on Neko based on policy."

148. In February of 2013, Facebook shut down Yahoo's access to key APIs, resulting in directnegotiations between Yahoo's Marissa Mayer and Facebook's Sheryl Sandberg in order to restore Yahoo's access to the Facebook Platform.

149. In March 2013, Facebook's key Platform employees began to voice concern that the approach taken by Facebook of shutting down access and then coercing "data reciprocity" was problematic. They instead encouraged making an upfront announcement that the APIs would be unavailable and then negotiating a deal for access to Facebook's Platform. In an e-mail that month fromPurdy to other Facebook employees and executives, he wrote:

> I have been thinking about the challenges around reciprocity and competitive enforcement (friends.get, etc.) and fact that ***it is all post facto***.The way we are structured today, you build an app on FB and then launchand then we may just shut you down, harming users and the developer. I wonder if we should move as quickly as possible to a model in product where all you get from platform is login (basic info) and sharing without approval. All other APIs are available in development, but have to be approved before the app launches to real users (basically all apps using friends.get have to have that capability approved). We are roughly on course to deliver this as part of unified review, save for the more granular approval for things like friends.get? What I love about this too is we couldmake our whitelists so much cleaner by making each capability an approval thing. Marie: I think makes your "deprecations" much easier. Thoughts?

150. Although Facebook moved towards full deprecation of the APIs with the exception of those with whitelisting agreements, it continued its campaign of quietly shutting down competitors' access to the APIs and then asking them to make a reciprocity deal. Indeed, Facebook soon thereafter shut down three competing Amazon apps, resulting in Amazon protesting that the decision "will break 3of our live integrations."

151. That same March in 2013, Facebook used API and Platform access as leverage to acquirerival Refresh.io. Facebook internally decided that it would threaten Refresh.io with denial of access to the APIs unless it sold its business to Facebook. That same form of leverage

would be used to acquire other rivals—either they sold to Facebook or they saw their business ejected from Facebook's Platform.

152. In 2013, Facebook also began using mobile spyware company Onavo to secretly track application usage on customers' phones. Onavo, through deceptive terms of service, tracked app usage in real time, and Facebook used that data to target specific competitors. By April 2013, Olivan was using Onavo to track Snapchat, Pinterest, WhatsApp, Tumblr, Foursquare, Google, Path, vine, Kik, Voxer, MessageMe, Viber, GroupMe, Skype, Line, and Tango. One internal Olivan presentation contained detailed usage data for these applications from August 2012 to March 2013.

153. By July 2013, Onavo data was providing detailed intelligence to Facebook on 30 millionOnavo users. Among all of the apps, the data showed the meteoric rise of WhatsApp, a direct competitorto Facebook's own fledgling product, Messenger.

154. Armed with detailed intelligence about its competitors—both on and off the Facebook Platform—Facebook ordered a detailed audit of Facebook applications that relied on the Friends and News Feed APIs.

155. Facebook's Director of Developer Platforms & Programs, Konstantinos Papamiltiadis, reported back that there were 40,000 apps using the APIs that were to be restricted, with 7% of them being photo or video sharing apps.

156. Facebook then began to categorize these third-party applications into three generalcategories: (1) developers that "may cause negative press" if their access to APIs were shut down; (2) applications that "provide strategic value"; and (3) applications that were "competitive" or "not useful toFB. Application developers that would experience "a Major Business Disruption/Kill" as a result of the restriction of API access received a "PR flag."

157. In response to the categorization, Lessin immediately ordered his subordinates to "shut down access to friends on lifestyle apps . . . because ***we are ultimately competitive with all of them***." (emphasis added).

158. As Facebook continued its analysis of the applications that relied on the Friends

and NewsFeed APIs, it became clear that Facebook's plan would result in the deprecation of the "majority of the API surface"—namely, the APIs that were the most essential parts of the Facebook Platform.

D. The Decision to Remove Developer Access to the Friends, News Feed and Other Crucial APIs Lacked Any Legitimate Justification

159. The engineers tasked with implementing Zuckerberg's decision to restrict access to the APIs were baffled. The decision made no technical sense whatsoever. Indeed, there was no justificationfor it other than to squelch competitors who threatened Facebook's dominant position and SDBE.

160. As Facebook engineer, David Poll, had written to all Platform Engineers earlier in 2011, the decision would mean gutting the Facebook Platform of functionality used—and needed—by some ofthe most important mobile apps built on Facebook's Platform:

> I was thinking about the Platform 3.0 friend list change a bit as I was usingmy Android phone tonight and realized that two for the apps that most impact my day-to-day mobile experience will be completely, irrevocably broken by this change In both of these cases, the apps are adding real value to my experience, and in both of those cases, I have zero expectationthat any of my friends will be using the app. The fundamental problem I'mhaving with this change is that my friend list is my information—it's part of who I am, and for Facebook to shut down this access primarily comes across to me as FB intruding upon and shutting down my own access to myown information.

161. Poll concluded, "No matter how you slice it, this change is going to have a significant negative impact on my day-to-day smartphone experience.

162. Poll was correct. The change meant breaking applications that added significant value to Facebook's network and increased valuable user engagement on Facebook's core product. The decisionto deliberately break these applications had only one plausible purpose—to strengthen the SDBE and toensure that competitors could not create rival social networks that could compete with Facebook.

163. That proposition was entirely obvious to those responsible for Facebook's Platform. In an August 2013 e-mail, senior Platform engineer Bryan Klimt wrote to Ilya Sukhar, Facebook's Head of Developer Products and Senior Engineer working on its APIs, and others working on Facebook's Platform, stating that the reason for the decision to block access to the Friends and News Feed APIs was to exclude competitors and that all other reasons were simply false and pretextual. To begin with, Klimt was clear that the removal of the APIs was "ridiculous" because they were so essential to the Facebook Platform:

> I'm trying to write a post about how bad an idea it would be to remove the api that lets you get a list of user's friends from Facebook Platform. In order to illustrate my point, I'd like to satirically suggest removing some API that is so core to the developer experience and that removing it would be ridiculous on its face. For example, removing the Windows API method that lets you create a new window. Or removing the Twilio API method that lets you send a text message. Both suggestions are utterly insane. The problem is, for Facebook Platform, removing the method to let you get a list of friends literally is already that ridiculous. I can't think of an example more ridiculous to parody it with.

164. Klimt then dispelled any notion that the APIs were being removed for any technical or functionality-driven reason:

> Before we discuss in more detail, I'd like to clear up some misconceptions about the deprecations. I've heard some rumors floating around about why we are doing this. But many of them are clearly pablum designed to make engineers think this decision has solid technical reasons. It does not. 1/ This API can be abused so we can remove it. False. That is a non-sequitur. Lots of APIs can be abused. Our whole product can be abused. That's why we have one of the best teams in the industry at detecting and stemming abuse. That team, plus Unified Review, is more than sufficient to deal with any theoretical abuse coming from this API. Even if this were true, who wants to be in that classroom where the whole class is punished for transgressions of a few?

165. Klimt also was clear that the APIs were not being removed in favor of new or

different APIs providing the same features:

> 2/ It's okay to remove because we've provided alternatives for common uses. False. If you think that's true, then I don't think you realize why developer platforms exist. If we wanted to limit Facebook to the set of usecases we've already imagined, we could just do that ourselves, and not evenhave a Platform. The purpose of a Platform is to let people build new things on top of it. It's to enable the whole universe of ideas that anyone in the world could think of. Developers out there will have all sorts of crazy ideas. We want them to build those crazy ideas on top of Facebook. Do you know why Facebook was originally built for the WWW instead of being part of CompuServe or AOL's proprietary networks? It's because the web is an open and extensible platform. It lets developers make their craziest becomereality.

166. Klimt then explained that the real reason was to hurt Facebook's competitors and preventthem from competing with Facebook:

> So, if neither of those reasons explains why we are doing this, what's driving it? The only reason I've heard that makes sense is that we are worried about people "stealing the graph", ***we are doing this as a protectionist grab to make sure no one else can make a competing social network by bootstrapping with our social graph***. Okay, so let's assume fora minute that the social graph does belong to us, and not to our users. Andlet's even go so far as to assume that this is a real problem, although, I'm not convinced it is. I mean, concerns that other companies will steal our friend graph may just be paranoia. But for the sake of argument, let's say it's not. Then what? ***We're removing the core API in our developer platform. Out of concerns that someone will steal our social network product.*** That sends a clear message to developers: Facebook Platform comes second to Facebook the Social Network Product. This has been a criticism all along with our Platform. When you go read the blog posts critical of our Platform, they all hit on this same point. When our APIs are subjugated to the whims of our other products, they can't be stable. And anunstable platform isn't really a platform at all. So then you are left with 2 big problems. 1/ How do you convince external developers to build on a platform where the most basic core APIs may be removed at any time? I mean, the only big value we bring to the table right now is in distribution and discovery, and that's going to encourage developers to do only the most superficial integration with Facebook. Basically, they're going to dojust

> enough to be able to use Neko ads. 2/ How do you convince internal developers to work on Platform knowing it's only ever going to play second fiddle to the rest of the company? I mean why should any of us work on a product that could be crippled at any time to benefit another team? If I worked on Platform, I would be seriously reconsidering my options if the API gets deprecated.

(emphasis added).

167. Klimt was clear—the decision to remove the APIs lacked any technical or business justification other than to prevent a competitor from creating a competing social network, eroding the SDBE protecting Facebook's business. Any proffered justification by anyone at Facebook to the contrarywas entirely pretextual.

168. Moreover, the decision to remove the APIs permanently destroyed the value of Facebook's Platform. If developers could not trust Facebook to maintain the APIs as stable parts of its Platform, they would not risk writing apps for the Platform in the future. The decision meant scuttling Facebook's valuable Platform for the ability to prevent a rival social network from taking hold.

169. Sukhar responded to Klimt, noting that he agreed and that he "talks about this every singlemeeting." His pleas to Vernal, Purdy and Zuckerberg to reverse their decision fell on deaf ears. The decision had been made and Klimt and Sukhar would have to implement it.

170. Facebook continued its audit of apps that relied on the APIs. Most of the Apps were important to the Facebook ecosystem. Indeed, Facebook acknowledged they "are not spammy or crap, but apps users like a lot." Nonetheless, Facebook's Papamiltiadis concluded that, among others, apps likeSunrise, Yahoo, IFTT, Friendcaster, MyLife, Sync.me, YouTube, Contacts+, and Bitly "overlap with Facebook products" and "could compromise our success in those areas."

171. Facebook's careful monitoring of competitive apps continued well into 2013, and given its heavy reliance on data secretly collected by Onavo, Facebook purchased Onavo on October 14, 2013.Facebook used that data to determine which apps competed with its social network and thus posed a threatto the SDBE. It then targeted those companies for withdrawal of

API access and coerced data reciprocityagreements.

172. In October 2013, Facebook's Purdy reported that Facebook was dividing apps into "threebuckets: existing competitors, possible future competitors, developers that we have alignment with on business model." Facebook's Eddie O'Neil believed that the "separation between those categories doesn't feel clean" and that the overlap was problematic. As O'Neil observed, "apps can transition from alignedto competitive and will ultimately make us sad that we leaked a bunch of data to them when they were aligned."

173. Sukhar objected to the entire exercise, noting that he had been speaking to many dozens of developers "who will get totally fucked by this and it won't even be for the right reason." Sukhar explained that his "engineers think ***this plan is insane*** and I'm not going to support an all hands [meeting]to convince them otherwise." (emphasis added).

174. As Sukhar noted, the decision to withdraw the Friends and News Feed APIs from the Platform made no technical sense whatsoever, and Sukhar could not bring himself to tell his engineers—who saw through the ruse—otherwise. It was obvious that Facebook was seeking to squelch potential competition—namely, by preventing user growth and engagement for competitive apps. As one Facebookengineer commented about the obvious purpose of the plan to remove the APIs: "I understand we want to make it hard for a developer to grow a new app."

175. The review of apps continued and specific decisions with respect to certain highly sensitive competitors were escalated to Mark Zuckerberg. As one internal Facebook e-mail explained:

> We maintain a small list of strategic competitors that Mark personally reviewed. Apps produced by the companies on the list are subject to a number of restrictions outlined below. Any usage beyond that specified isnot permitted without Mark level signoff.

176. In December 2013, Klimt complained to Sukhar about the audit and categorization process:

> So we are literally going to group apps into buckets based on how scared we are of them and give them different APIs? How do we ever hope to document this? Put a link at the top of the page that says "Going to be building a messenger app? Click here to filter

> out the APIs we won’t let you use!”
>
> And what if an app adds a feature that moves them from 2 to 1. Shit just breaks? And messaging app can’t use Facebook login? So the message is,“if you’re going to compete with us at all, make sure you don’t integrate with us at all.”? I am just dumbfounded.

177. As Poll recognized in response to Klimt’s complaint, the changes to Facebook’s Platformwere “more than complicated, it’s sort of unethical.” Klimt agreed with the assessment, noting that the API removal “feels unethical somehow It just makes me feel like a bad person.”

E. Facebook Prepares to Announce Removal of the APIs

178. Zuckerberg decided to announce the API removal under the cover of a major change to the Facebook Platform, codenamed PS12N, which would be announced at the next Facebook F8 Developer Conference. Facebook’s engineers were accordingly instructed in September 2013 to bury thechanges to the API and announce them quietly along with the changes that would be announced at the conference.

179. In the run-up to its API withdrawal announcement, Facebook continued its audit of applications on its platform that were using the APIs. During that process Facebook continued to classifypotential competitors, including LinkedIn and AirBnB, as companies that would be denied access with no whitelist exception.

180. Although Facebook knew that the APIs were going to be removed by the next F8 conference, it continued to tell developers to rely on them. As a Facebook Platform evangelist noted aboutone particular document frequently shared with developers, “the language in here around friend permissions is very counter to our upcoming platform simplification efforts” and “feels against the spiritof where we are headed.”

181. That was, however, precisely what Facebook wanted—to continue to entice developers tobuild their software and their businesses on APIs that made them dependent on Facebook. The use of theAPIs meant that competitors could be abruptly shut out of the market, useful apps could be extorted for valuable social data, and the rest could simply be destroyed.

182. By October 2013, Facebook required certain application developers it chose to

whitelist to sign Private Extended API Agreements, which obligated them to purchase large amounts of advertisingor to provide their own valuable social data to Facebook in exchange for continued access. That month, for example, Facebook whitelisted Royal Bank of Canada's application in exchange for the purchase of social data through Facebook's NEKO advertising platform.

183. Facebook catalogued and tracked developers on its platform that would likely complain about the decision, creating negative press. Facebook's internal employees tasked with crafting a PR message explained the undertaking in a December 2013 e-mail:

> In prep for Platform Simplification, we're putting together a list of developers who we think could be noisy and negative in press about the changes we're making: Primarily we think it will be a list of the usual suspects from past policy enforcements. We'd love to pull from your historic knowledge on the topic. Is there anybody you'd add to the list below? We're going to build plans around how we manage and communicate with each of these developers. There are also comms plans in the works for working with developers who are high ad spenders and friends of Mark/Sheryl."

184. Facebook planned to manage its message carefully, as its decision likely would alienate even those developers who were making large purchases of social data from Facebook through ads and/orwho were friends of Facebook's two most senior executives, Zuckerberg and Sandberg. Those developerswere identified and the message to them was carefully crafted to avoid a PR disaster. For most applicationdevelopers, however, the decision would result in the complete exclusion of their applications from Facebook's ecosystem—which would likely be fatal to their businesses.

185. Facebook targeted potentially "noisy" or "negative" developers individually, including, but not limited to, the following applications and developers: iLike, Rock You, Zynga, Path, Flipboard, Slide, Social, Fixer, SocialCam, Viddy, BranchOut, Vince, Voxer, Message Me, Lulu, Anil Dash, SuperCell, Kabam, Washington Post, Guardian, The Wall Street Journal, Jason Calacanis, Cir.cl, Bang with Friends, Tinder, Social Roulette, App Wonder, Ark, Vintage

Camera, and Girls Around Me.

186. Facebook also used call-log data secretly collected by Android users to target developersand applications to be shut down.

187. The entire process led Facebook engineer George Lee to lament:

> We sold developers a bill of goods around implicit OG [Open Graph] 2 years ago and have been telling them ever since that one of the best thingsthey could do is to a/b/ test and optimize the content and creative. Now thatwe have successes. . . . We're talking about taking it away [Developers] have invested a lot of time to establish that traffic in our system . . . . The more I think about this, the more concern I have over the pile of asks were [sic] making of our developers this year. PS12N is going to require them to alter how they deal with APIs (and for limited value).

188. Thus, as Facebook continued to prepare its API withdrawal announcement, Facebook's own executives recognized that Platform developers had been conned into relying on Facebook's APIs. Facebook knew full well that it intended to remove the APIs, but it allowed and encouraged developers to build entire businesses on and around them. As Lee put it, they were sold a "bill of goods."

189. By 2014, it was clear that with the exception of a few apps and developers, most would be denied access entirely to the Friend and News Feed APIs.

190. In January 2014, Zuckerberg debated denying API access to dating apps. Facebook decided that it would whitelist Tinder and other anointed dating apps and shut down the rest, clearing theway for the selected apps to dominate the dating market. Zuckerberg reasoned that although Facebook would ultimately create its own dating app, it would let Tinder and a select few others to survive until Facebook's competing app was ready:

> I've been thinking a lot about Tinder and other people recommendation apps since about 10% of people in many countries are using a Tinder now.People recommendations seems like something that should be right up ouralley, but it's currently something we're not very good at. Tinder's growthis especially alarming to me because their product is built completely on

> Facebook data, and it's much better than anything we've built for recommendations using the same corpus . . . . I think this is a big and important space and it's something we should have a team working on— probably to develop people recommendation Hunch sections for now.

191. Zuckerberg became increasingly involved in assessing whether individual apps would be whitelisted when the APIs were removed. Facebook's senior-most executives accordingly prepared recommendations for his consideration. In a January 2014 presentation entitled, "Slides for Mark," for example, Facebook employees summarized the results of the ongoing app audit. The presentation observed that the changes would make it "impossible to build" an app without a whitelist agreement with Facebook. The presentation made special recommendations for apps that purchased large amounts of social data through Facebook's NEKO platform or whose developers were friends with Zuckerberg or Sandberg. The bulk of the 41,191 apps that relied on the Friends or News Feed APIs, however, would be shut out and, as a result, completely destroyed .

192. Although the effect on these apps was clear, Facebook continued to evangelize the APIs to developers. In January 2014, Facebook's George Lee sounded the alarm to Purdy and Vernal, which fell on willfully deaf ears:

> [P]artner managers are still selling products that we ask them to sell, so when it comes to feed integration, we're still telling people to use [Open Graph]. The last f8 was all about implicit [Open Graph], so while we may have decided amongst ourselves that this is no longer the future without an alternative we don't have anything to tell current [developers] (so partners continue to tell them to use [Open Graph] and they continue to integrate it).

193. The plan to quietly take away the APIs in favor of a new crippled developer platform was called the "switcharoo plan" by Facebook's engineers. It was clear to all involved that the announcement of the changes to the platform at the upcoming F8 conference was cover for the radical changes Facebook planned to make to its platform—namely, the removal of the Friends and News Feed APIs.

194. During March 2014, Facebook's engineers and employees continued to be baffled by theupcoming decision. As one employee noted:

> It seems a bit odd that we block other developers from doing things on ourplatform that we're ok with doing ourselves. Do we consider ourselves exempted? That seems a little unfair especially when our stance on some of these policies is that they're about ensuring trusts and a great experience.My mental model on how platform is a level playing field could be way offthough.

195. The decision made no sense to Facebook's own employees, particularly because Facebook itself needed the APIs to make their own competing applications, including Facebook's Messenger application. Facebook's executives ignored all of the concerns raised by their employees, including their API engineers, and continued to drive towards the announcement of the removal of the APIs at F8.

196. The real reason for the removal of the APIs was kept tightly under wraps. In April 2014, right before the announcement, Vernal warned Sukhar that if any mention was made of the competitive reasons for the removal of the APIs (as Sukhar wanted), there would be a "high likelihood of breaking into jail."

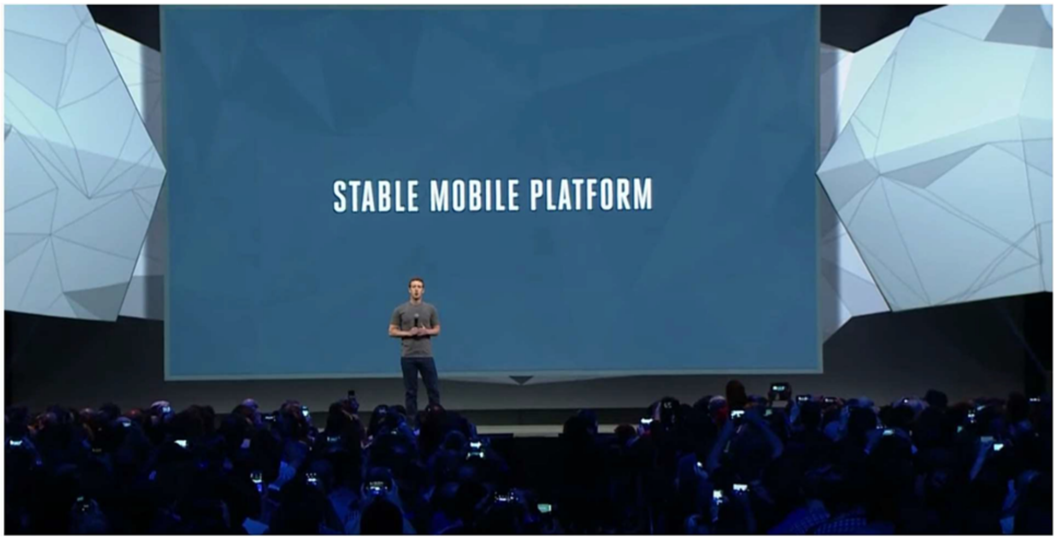
F. The Announcement at F8

197. On April 30, 2014, Facebook announced "The New Facebook Login and Graph API 2.0"on Facebook's website. Facebook heralded changes to its new Login system for several pages. Buried inthe announcement was a quiet statement about the Platform's most important APIs—the Friend and NewsFeed APIs: "In addition to the above, we are removing several rarely used API endpoints; visit our changelog for details."

198. These APIs were not ***rarely used*** at all. Tens of thousands of third-party apps were activelyusing and building on the APIs. Internal Facebook engineers likened them to essential APIs in Microsoft'sWindows and were outraged at the removal. Five of the top ten Facebook Apps surveyed in December 2012 relied heavily on them. The announcement was entirely false and was deliberately buried beneath other API announcements to avoid drawing attention to the

competition-crippling effect of the decision. In fact, today, the changelog referred to in the announcement is no longer accessible on Facebook's pageeven though years of other changes are.

199. When Mark Zuckerberg took the stage at F8 days later for his keynote speech, there was no mention of the removed APIs. Instead, Zuckerberg emphasized the "stability" of Facebook's mobile platform just as Facebook quietly removed some of the most heavily relied-upon and necessary APIs in Facebook's Platform.



200. At the twenty developer sessions preceding the announcement, not one mention was madeof the API removal or that the upcoming changes would simply break nearly all of the more than 40,000third-party apps that relied on the APIs. After April 30, 2015, the APIs were no longer part of any available version of Facebook's Platform.

201. Facebook thus had successfully destroyed any application that could possibly create a product that could threaten the SDBE that protected Facebook's dominant position and market power. Aselect few would be required to hand over their most valuable resource—their social data—to their behemoth competitor in exchange for continued access.

VIII. THE WHITELIST AND DATA SHARING AGREEMENTS

202. After the announcement and through the full removal of the APIs in April 2015, Facebookcontinued to make a series of agreements that forced certain competitors to hand their data over to Facebook. For example, Facebook forced certain third-party developers that it

identified as competitive threats with valuable social data to sign Private Extended API agreements—referred to throughout this Complaint as “Whitelist and Data Sharing Agreements” or simply “the Agreements”—in order to obtainaccess to the Friends and/or News Feed APIs.

203. Facebook’s Whitelist and Data Sharing Agreements, as of January 2015, included a provision that acknowledged that the APIs they covered are not available to the general public. An exhibitto each Whitelist and Data Sharing Agreement listed the specific Facebook APIs to which a particular developer was being granted access.

204. These Agreements were only offered in exchange for massive purchases of Facebook’s social data through mobile advertising and/or through the provision of the developer’s own social data back to Facebook (so-called “reciprocity”).

205. As Facebook executives and engineers understood and acknowledged in internal communications, this scheme allowed Facebook to serve as a “data pass-through” among competitors. Competitors with Whitelist and Data Sharing Agreements provided social data to Facebook, which solddata obtained from one competitor to another whitelisted competitor.

206. If a developer refused to participate in the scheme, it was excluded entirely from Facebook’s Platform because the most important APIs—the Friends and News Feed APIs—would not be available to it.

207. In January 2015, Facebook provided Whitelist and Data Sharing Agreements to the datingapps Tinder and Hinge, because of the value of the social data those applications produced.

208. In February 2015, when Airbiquity (another third-party developer) sought a Whitelist and Data Sharing Agreement, Facebook lied to them, telling Airbiquity that the specified APIs “won’t be available to anyone” after April 30, 2015, and that “all similar integrations will be subject to the same deprecations/restrictions.”

209. That same month (February 2015), Facebook secretly signed Whitelist and Data Sharingagreements with other third-party developers, including Netflix, Nissan, and Lyft.

210. In April 2015, Facebook’s manager of strategic partnerships, Ime Archibong,

internally celebrated the fruition of Facebook's three-year plan to eliminate its competition through Platform changes: "Three years coming, but the 'Platform Simplification' initiative finally lands this week."

211. Also in April 2015—as Facebook finally cut off all public access to the Friends and NewsFeed APIs—Facebook continued to receive requests for Whitelist and Data Sharing Agreements from companies such as Microsoft, Hootsuite, and Walgreens.

212. Facebook had already extracted valuable social data from dozens of competitors, includingFoursquare and Pinterest, in the run-up to the announcement and ultimate removal of the APIs. Withoutdiscovery, the precise number and identity of those who entered into Whitelist and Data Sharing Agreements with Facebook cannot be known for certain, but publicly available information indicates that dozens of app developers entered into such Agreements with Facebook.

213. Absent the Agreements and Facebook's overall anticompetitive scheme to exclude third-party developers, other companies could have created their own social data through the proliferation of their own competing social networks. The engagement on their competing networks and the social data generated from that engagement would have increased the value of their networks because of network effects. As the amount of social data generated and monetized on these competing networks increased, Facebook's SDBE would erode, potentially driving more users to new platforms.

214. None of that could happen as long as Facebook could coercively demand all of the valuable social data generated on any competing platform. The Whitelist and Data Sharing Agreements ensured that competitive threats such as Foursquare could not accumulate enough social data to create their own feedback loop in—and perhaps come to dominate, through network effects—any market in which Facebook anticipated competing or actually competed.

215. The Agreements also ensured that Facebook's decision to destroy forty thousand applications built on the Friends and News Feed APIs would be effective—and remain so. If Facebook did not control the supply and sale of social data, excluded developers could simply

build their applications on another platform. But by entering into a network of Whitelist and Data Sharing agreements, Facebook ensured that no such competing platform could arise. The Agreements strengthened and preserved the SDBE and/or prevented the proliferation of rival generators of social data and third-party developer platforms.

216. In a world where no such Agreements existed, a rival such as Pinterest or Foursquare would obtain more engaged users, resulting in more social data that those competitors could monetize through their third-party or advertising platforms. The thousands of developers denied access to Facebook's Platform would therefore build their applications on Foursquare or Pinterest instead of simply going out of business or changing their products/businesses dramatically to survive. By forcing those and other similarly situated companies to hand over their social data, Facebook made sure its Platform would be the only viable platform upon which a third-party social application could be built.

217. As explained in the next section, the only remaining threat to Facebook's Social Advertising dominance was from a completely independent competitor that did not rely on Facebook's Platform, and thus could not be extorted into handing over its data in exchange for API access. For such companies, Facebook would pay any price to remove them from the market—and use their assets to strengthen Facebook's SDBE.

218. But first, Facebook had to identify such threats to its market dominance. Enter Onavo.

IX. THE SURVEILLANCE AND ACQUISITION OF COMPETITIVE THREATS

219. To ensure that its scheme to maintain and expand its market power would work, Facebook had to control an important source of competition: independent social networks and producers of social data. Although Facebook could simply destroy any competition that relied on its Platform by denying access to essential APIs, this would do nothing to stop a competitor that was growing its network of engaged users entirely independent of Facebook.

220. To detect such threats before they became too formidable, Facebook sought a way to covertly surveil millions of mobile users to determine what applications they were using,

and how. Mobileapplications were particularly important—and concerning—to Facebook, as desktop engagement was shrinking while mobile apps rapidly proliferated. By 2012, it was clear to Zuckerberg and to Facebook that any threat to its dominance would come from a mobile application. As explained in this section, Facebook used mobile spyware on an unprecedented scale to surveil, identify, and eventually remove from the market through acquisition competitors that independently threatened Facebook's dominance and/or the SDBE protecting its monopoly, market power and business.

A. Facebook Relies on Onavo's Surveillance of Facebook's Competitors, andAcquires and Uses Onavo's Assets

221. Onavo was an Israeli mobile web analytics company founded by Roi Tiger and Guy Rosenin 2010. The company designed spyware designed to surveil users as they used their mobile devices. Toobtain extensive information on a user's usage of mobile applications and of bandwidth, Onavo cloakedits spyware in virtual private networks ("VPNs"), data compression, and even in mobile privacy apps.

222. Onavo sold the mobile usage data it collected to Facebook, which in turn used the real- time information it received from Onavo to determine which mobile applications posed a threat to Facebook's dominance and to the SDBE protecting Facebook from new entrants and competition. Facebook used Onavo data to: (a) identify and target competitors from which Facebook could demand Whitelist and Data Sharing Agreements; (b) identify and target competitors to whom Facebook would completely deny Platform access; and (c) identify and target competitors that Facebook would remove from the competitive landscape entirely through acquisition.

223. Facebook received Onavo information in real time, which included the two most important metrics for competing mobile applications—their reach and engagement. Reach measures the size of anapplication's user base, and "engagement" measures the extent to which users actively engage with the application. An application with high reach but low engagement cannot generate the sort of social data that Facebook needs to feed its advertising platform with

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actionable targeting data. Conversely, an application with high engagement but low reach doesn't generate social data from enough people to attract a broad base of advertisers. The greatest threat to Facebook's business would come from an application that exhibited strong reach and strong engagement—and especially one that showed rapid growth in both metrics, indicating the development of network effects.

224. As the potential threat to its market dominance from mobile applications continued to grow, Facebook sought to obtain exclusive control over Onavo's surveillance data—and over its mobilespyware code and installed base. On October 13, 2013, Facebook acquired Onavo.

225. On its blog, Onavo's CEO Guy Rosen and CTO Roi Tiger, announced that Onavo wouldcontinue as a standalone brand: "When the transaction closes, we plan to continue running the Onavo mobile utility apps as a standalone brand. As always, we remain committed to the privacy of people whouse our application and that commitment will not change."

226. Facebook, however, had other plans. It immediately began integrating Onavo's applications into both its business operations and its acquisition strategy. Facebook, for example, begananalyzing data secretly collected from Onavo's Protect software, which was a massive surveillance and data collection scheme disguised as VPN software. Billed as a way to "keep you and your data safe," Onavo Protect in fact monitored all web and mobile application traffic on a user's mobile device.

227. When an Onavo Protect user opened a mobile app or website, Onavo software secretly redirected the traffic to Facebook's servers, where the action was logged in a massive database. Facebookproduct teams then analyzed the aggregated Onavo data to determine which apps and features people were using in real time, how frequently they used the apps, and for how long. If the data in an app was not encrypted, this information was as specific as (for example) the number of photos the average user likes or posts in a week in that app.

228. Based on a 2017 estimate, Onavo's mobile apps were downloaded an estimated twenty- four million times, and Facebook collected, compiled, and leveraged all of the collected

data. By February2018, Onavo apps had been downloaded thirty-three million times across both iOS and Android.

229. As the former chief technologist for the Federal Trade Commission remarked to the press,Onavo was being leveraged against user interests to stifle competitive innovation:

> Instead of converting data for the purpose of advertising, they're converting it to competitive intelligence . . . . Essentially this approach takes data generated by consumers and uses it in ways that directly hurts their interests—for example, to impede competitive innovation.

230. Since 2011 and through the present, Onavo products have provided Facebook with real time data about mobile users on a breadth and scale not available through any other service or app. Using Onavo data, Facebook was able to determine which potential competitors it could target for its Whitelistand Data Sharing agreements; which competitors it could destroy by denying access to crucial APIs; andwhich competitors is needed to remove from the market through acquisition to preserve its monopoly position and SDBE.

231. Moreover, by monitoring potential threats, Facebook ensured that it had no blind spot— any application that posed a threat to its dominance was dealt with through anticompetitive and unlawfulWhitelist and Data Sharing Agreements, destruction by denial of access to vital APIs on Facebook's platform, or by acquisition.

232. By acquiring Onavo, Facebook obtained exclusive access to the only real-time and high-quality source for mobile app user metrics at scale. Because of the acquisition of Onavo, Facebook strengthened the SDBE by ensuring that any threat to its dominance of the Social Advertising Market was dealt with at the earliest possible stage. Indeed, through Onavo, Facebook was able to (and did) trackmobile app usage and trends essentially from launch. If a potential Facebook killer was on the rise, Facebook had a unique tool to identify it before anyone else could—and Facebook used it.

233. In the years after it acquired Onavo, Facebook continued to aggressively leverage the company's codebase in deceptively labeled apps that facilitated maximum surveillance and

data collection of mobile users. For example, Facebook placed Onavo spyware in apps whose stated purposesrequired privileged access to user's mobile devices (in some cases, super-user privileges), allowing Facebook to gather data on virtually every aspect of a user's mobile device usage.

234. The abuses by Facebook were so flagrant that on August 22, 2018, Apple banned Facebook's Onavo app from its App Store. Apple ejected Facebook's app from its marketplace becauseit violated Apple's rules prohibiting apps from using data in ways far beyond what is required to run theapp and provide advertising. In other words, because Onavo Protect was leveraging far more data than any VPN could conceivably need, it was clear that the true purpose of the app was to spy on Onavo users,and Apple would not allow it.

235. Indeed, the amount of surveillance was jaw-dropping. Facebook's Onavo Protect app reported on users' activities whether their screens were on or off; whether they used WiFi or cellular data;and even when the VPN was turned off. There was simply no rational relationship between the data collected and the purported purpose of the application. Put simply, a VPN that collected data even whenthe VPN was off was an obvious subterfuge for blatant spying on user behavior.

236. Undeterred, Facebook repackaged its Onavo spyware as a Facebook Research VPN app. Facebook sidestepped the App Store by rewarding teenagers and adults when they downloaded the Research app and gave it root—superuser—access to network traffic on their mobile devices. Facebookhas been leveraging its Onavo code in similar ways since at least 2016, administering the program underthe codename "Project Atlas"—a name suited to its goal of surveilling app usage on mobile devices in real time.

237. When the news broke in January 2019 that Facebook's Research apps were repackaged Onavo apps designed to spy on users, Facebook immediately withdrew the programs from the Apple Appstore.

238. Apple again concluded that Facebook had tried to violate its policies. Using Apple'sEnterprise Developer Program, which allows the installation of a certificate or policy

that provides root access to an iPhone or iPad, Facebook obtained a level of administrative privilege designed for a company's internal IT department. Thus, using a system that allowed organizations to manage their internal mobile devices, Facebook provided its spyware super user access to regular people's iPhones andiPads. Apple balked at the abuse. An Apple spokesman stated:

> We designed our Enterprise Developer Program solely for the internal distribution of apps within an organization. Facebook has been using theirmembership to distribute a data-collecting app to customers, which is a clear breach of their agreement with Apple. Any developer using their enterprise certificates to distribute apps to consumers will have theircertificates revoked, which is what we did in this case to protect our usersand their data.

239. U.S. Senator Mark Warner immediately called for new legislation to prevent the sort of abuse which Facebook had engaged in. U.S. Senator Richard Blumenthal issued a fierce statement rebuking Facebook's repackaging of the Onavo spyware app as "research": "Wiretapping teens is not research, and it should never be permissible."

240. In addition to Onavo's Protect app, Facebook has attempted to deploy its surveillance software as other forms of utility applications that require extensive or privileged access to mobile devices. For example, Facebook released the Onavo Bolt app, which locked apps behind a passcode or fingerprint while it covertly surveilled users—and sent Facebook the results. Facebook also shut that appdown the very day that its surveillance functionality was discovered. The Onavo Bolt app had been installed approximately 10 million times.

241. Facebook continues to possess Onavo's code base and is likely, as it has done before, to repackage its surveillance software into yet another app. Facebook can also easily incorporate surveillance code into any of its mobile applications that enjoy massive installed bases and reach, including Instagram and WhatsApp. Without deterrence or divestiture, Facebook will continue leveragingthe surveillance software, infrastructure, and analysis that it acquired as part of its acquisition of Onavo.

B. Facebook Identifies Instagram as a Threat and Acquires the Company

242. Data from Onavo reported a significant threat on the horizon likely as early as

2011 (andcertainly by 2012): a photo-sharing mobile application called Instagram. That app had its origins when founder Kevin Systrom, then 27, learned to code over nights and weekends. Systrom developed an app called Burbn, which allowed users to check in, post plans and share photos. The photo sharing feature immediately became the app's most popular.

243. After meeting venture capitalists from Baseline Ventures and Andreesen Horowitz, Systrom received $500,000 of funding. Systrom soon after met co-founder Mike Krieger—then 25 yearsold—who focused on the user experience of the app.

244. Seeing the positive reception to the photo sharing aspect of the Burbn app, Krieger and Systrom decided to pivot their business to focus on that feature. They studied their rivals in the category, including an app called Hipstamatic, which included photo-editing features, including the ability to add filters to photos. Hipstamatic, however, had no social capabilities.

245. Seeking to bridge the gap between Hipstamatic photo features and Facebook's elements,Systrom and Krieger stripped Burbn down to its photo, comment, and like capabilities. They then renamed the app Instagram, containing the words "instant" and "telegram."

246. Systrom and Krieger worked tirelessly to polish the user experience of their new application, designing Instagram to streamline the process of taking photos on mobile devices and uploading them to a social platform. The app had a minimalist focus, requiring as few actions as possiblefrom the user. After eight weeks of fine-tuning, the app entered its beta phase and the founders preparedto launch it on iOS.

247. On October 6, 2010, Instagram launched on iOS. That very day it became the top free photo-sharing app on Apple's App Store, racking up twenty-five thousand downloads. Instagram's founders were stunned at the response. As Systrom noted after the launch: "First off, we have to say thatwe never expected the overwhelming response that we've seen. We went from literally a handful of usersto the #1 free photography app in a matter of hours."

248. By the end of the first week, Instagram had been downloaded 100,000 times, and by mid-December 2010, its total downloads had reached one million. The timing of the app was

impeccable, as the iPhone 4, with its improved camera, had launched just a few months earlier in June 2010.

249. With Instagram on the rise, investors clamored for a stake. In February 2011, Instagram raised $7 million in Series A funding from a variety of investors, including Benchmark Capital, which valued the company at around $25 million. In March 2011, Jack Dorsey, the CEO of Twitter, pursued theidea of acquiring Instagram, and Twitter made an offer of approximately $500 million dollars for the company. Systrom declined.

250. By March 2012, the app's user base had swelled to 27 million. That April, Instagram wasreleased on Android phones and was downloaded more than one million times in less than one day. At the time, the company was also in talks to receive another $500 million funding round.

251. Internally, Facebook carefully tracked Instagram's meteoric rise, including through the intelligence it received from Onavo's data collection. Instagram clearly posed a competitive threat to Facebook's dominant position, including in the rapidly expanding market for mobile-based social applications.

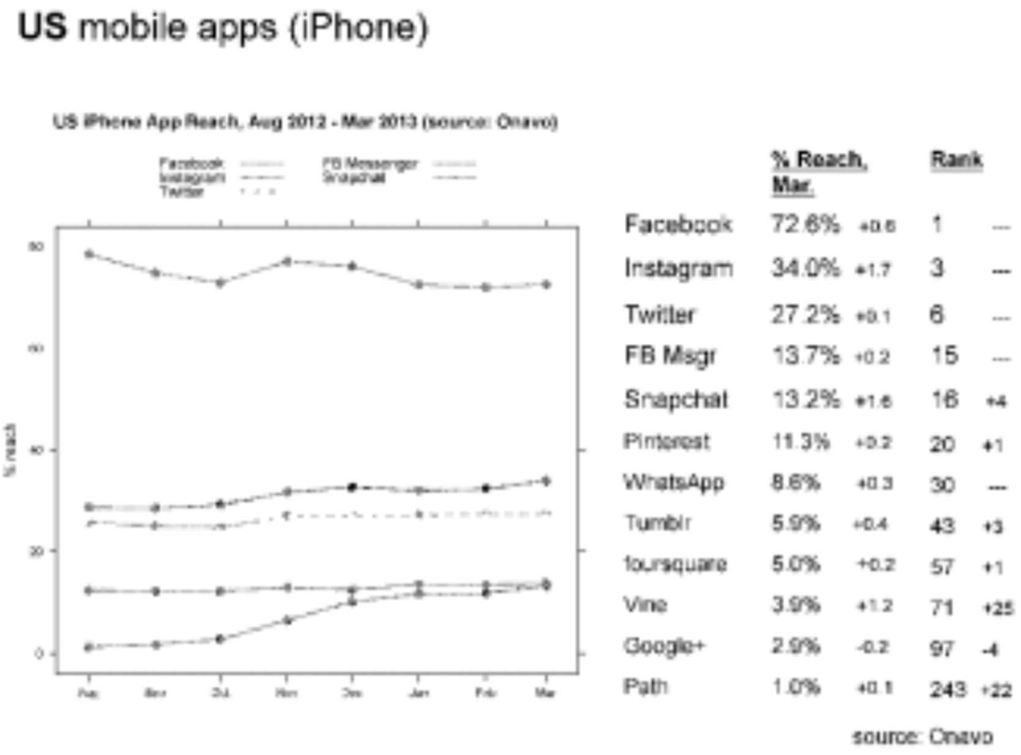
252. Unlike Instagram's streamlined approach to photo sharing, Facebook's photo-sharing wasonerous. As Facebook internally recognized, mobile devices were changing how users uploaded and shared photos and it was causing severe problems for Facebook's business. As an internal Facebook presentation explained:

> Before phones, people would take their digital cameras out for special events, vacations, etc. Then, they would post a bunch of photos at once—after uploading them to their computer. With phones, people take and sharemore photos more often. They share them individually (rather than waitingto upload a bunch at once).

253. This resulted in a large drop in bulk photo uploads on Facebook's core social networkingproduct—a 29% decline from 2012 to 2014. Facebook also observed that text posts were "tanking" 26%because of "migration to phones with cameras." The data was clear—Facebook had to shut down the looming threat from the new photo-sharing app. If Facebook did

nothing, Instagram's user base would imminently eclipse Facebook's at its current growth rate, eroding and perhaps even destroying Facebook's SDBE. An independent app with no ties or reliance on Facebook, Instagram could become not only a competing mobile-based social app, but a social network unto itself that could rival Facebookin the amount of engagement and social data it could produce and monetize.

254. After direct talks with Mark Zuckerberg, Facebook made Instagram an offer to the company for $1 billion in April 2012, with the express promise that the company would remain independently managed. Facebook consummated the deal immediately prior to its IPO.



	% Reach, Mar.		Rank	
Facebook	72.6%	+0.6	1	---
Instagram	34.0%	+1.7	3	---
Twitter	27.2%	+0.1	6	---
FB Msgr	13.7%	+0.2	15	---
Snapchat	13.2%	+1.6	16	+4
Pinterest	11.3%	+0.2	20	+1
WhatsApp	8.6%	+0.3	30	---
Tumblr	5.9%	+0.4	43	+3
foursquare	5.0%	+0.2	57	+1
Vine	3.9%	+1.2	71	+25
Google+	2.9%	-0.2	97	-4
Path	1.0%	+0.1	243	+22

source: Onavo

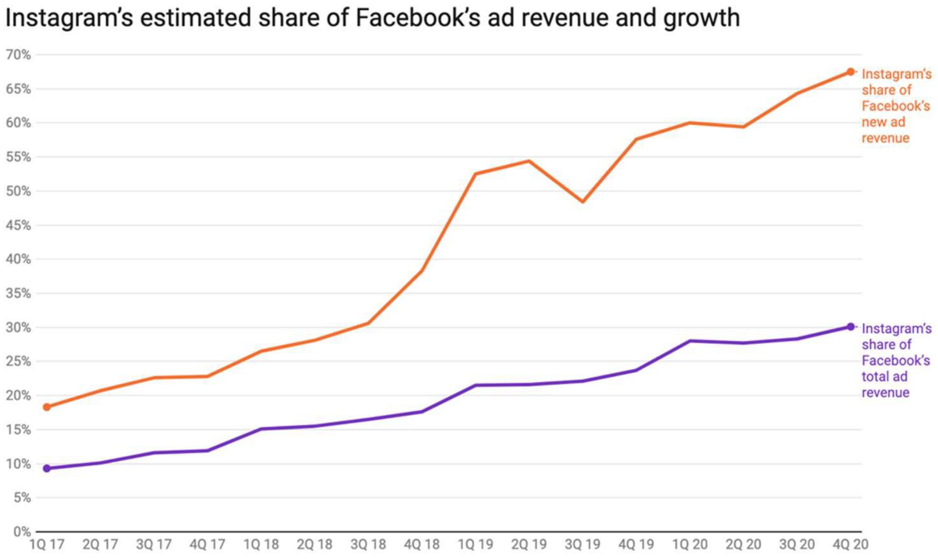
255. Facebook's own Onavo data, which was obtained and published by Buzzfeed, made clearthat Instagram posed an existential threat to Facebook. By February 2013, Instagram had grown to 34%of the total user reach among all social apps.

256. With its Instagram acquisition, Facebook's share of mobile photo sharing app users ballooned as Facebook added Instagram's 34% user reach to Facebook's own 72% user

reach.

257. Although Instagram had not at the time of the merger meaningfully monetized its user engagement and social data, Facebook quickly did so. By the end of 2013, Facebook had begun showing ads on Instagram. Since then, Instagram has become an ever-increasing proportion of Facebook'sadvertising revenue and a large share of Facebook's user growth.

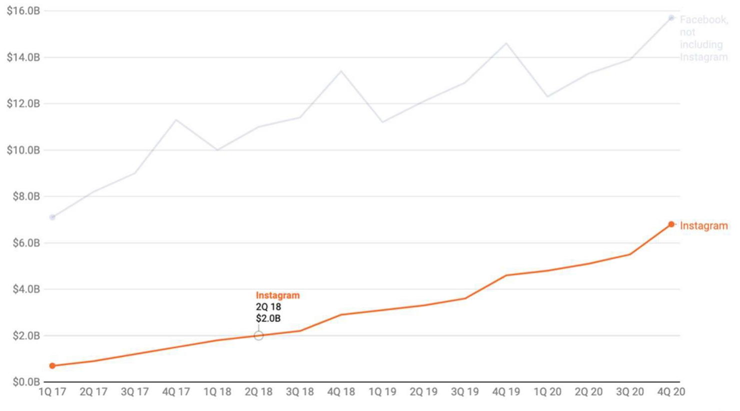
258. In 2017, Instagram generated $2 billion, or about 15 percent, of Facebook's $13 billion in ad revenue.



259. By the end of 2018, Instagram had a billion users and was estimated to generate $8 billion to $9 billion in revenue for Facebook in 2018.

260. Instagram also accounts for the bulk of Facebook's new revenue since the acquisition.

Facebook and Instagram's estimated quarterly ad revenue



Source: Andy Hargreaves, CFA, Equity Research Analyst with KeyBanc Capital Markets

recode

261. Instagram allowed Facebook to grow its social network as Facebook's desktop and core mobile application began to stagnate. Together, Facebook and Instagram captured and monetized the social data generated across both apps.

262. The Instagram acquisition ensured that Instagram could not become a rival social network that could generate enough social data to erode the SDBE protecting Facebook's business. It also ensuredthat Instagram could not build and grow its own developer platform, which would threaten Facebook's scheme to dominate the Social Advertising Market by denying and/or leveraging social-data dependent applications' access to essential APIs. The acquisition accordingly also ensured that Facebook rivals required to enter into Whitelist and Data Sharing Agreements had no other platform choice—and thus nooption but to hand over their social data to Facebook.

263. At the time of its IPO in 2012, Facebook struggled to grow its mobile product, let alone to meaningfully monetize the social data it collected through advertising. By 2019, Facebook had achieved an 83% share of the Social Advertising Market by leveraging its Instagram mobile application and its Facebook mobile and desktop applications. No other company comes close in market share.

264. Instagram was instrumental to Facebook's explosive growth in the Social Advertising Market. From the fourth quarter of 2010 until the first quarter of 2011, Facebook's

revenue was flat. From 2011's holiday cycle to 2012's opening three months (right before its IPO), Facebook actually ***shrank***. Facebook then experienced a sudden reversal after its acquisition of Instagram, as mobile revenuebegan to account for a significant share of revenues, and Instagram allowed Facebook to grow with the rise of mobile applications.

265. Notably, Facebook's acquisition of Instagram also allowed Facebook to exclude third- party apps that provided photo and video sharing functionality from its Platform. If an image sharing or video app contained an important feature, Facebook cloned it, thus paving the way for excluding a competitive rival from its Platform, while simultaneously taking away that rival's share of users.

266. For example, when Snap, the maker of the app SnapChat, rejected Zuckerberg and Facebook's $3 billion offer to purchase the company and its product, Facebook flagrantly copied key features from Snap and built it into its Instagram product. Thus, when the SnapChat's "stories" feature—which allows a user to post a connected series of images and video—rapidly grew in popularity, Instagramsimply cloned it. By late 2016, Instagram had launched a product that mooted one of Snapchat's most popular features.

267. Facebook's own clunky mobile app's clone of the "stories" feature did not have nearly thesame traction with users. It was Instagram that provided Facebook the platform to compete head-on witha looming threat among social photo- and video-sharing apps. Without Instagram, Facebook would havefaced direct competition. Instead, it leveraged Instagram to obtain and maintain its dominance among social mobile apps and the lucrative social data they generated.

268. Put simply, the acquisition of Instagram dramatically increased Facebook's market share of the Social Advertising Market and strengthened the SDBE protecting Facebook's business.

C. Facebook Acquires WhatsApp

269. In February 2009, Jan Koum and Brian Acton left Yahoo and founded a new company called WhatsApp. Koum had an idea for a mobile application that displayed user

statuses in an address book on a smartphone—indicating, for example, whether a user was on a call, had low battery, or was atthe gym. The pair enlisted the help of a Russian developer, Igor Solomennikov, to build the app. Koum spent days writing backend code for the app to allow it to sync with any phone number in the world.

270. Although the app—named WhatsApp—was initially unsuccessful, a June 2009 development changed everything. That month, Apple introduced “push notifications” for iPhone, allowing developers to ping app users even when they weren’t using the app. Koum immediately updatedWhatsApp to ping a user’s entire network of friends when their status changed.

271. The feature eventually became a form of instant messaging. Because messages sent through WhatsApp instantaneously notified other users even if the phone was not running the app in theforeground, it became ideal for broadcasting messages to connections within a user’s social network, which was built on their phone’s contact list.

272. At the time, WhatsApp’s only significant competition for this sort of instant messaging was BlackBerry’s BBM—which was exclusive to BlackBerry’s proprietary hardware platform. WhatsApp, on the other hand, tapped into the vast network of app-enabled consumer smartphones that had emerged, particularly Apple’s iPhone.

273. WhatsApp continued to innovate, including by introducing a double checkmark that showed when a message was read by another user. Wanting more from text messaging, including the limited MMS protocol used by cellular networks, WhatsApp set out to build a multimedia messenger system to send messages across a social network in real time to mobile devices.

274. Because WhatsApp’s messaging used the mobile phone’s Internet connection rather thantext messages, the app allowed users to avoid text messaging fees entirely. In some countries, text messages through cellular providers were metered. WhatsApp’s ability to send messages to any user witha phone using the Internet was its most sought-after feature.

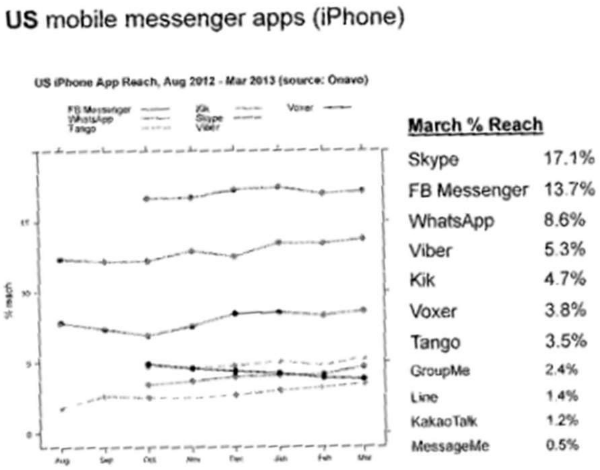
275. In December 2009, WhatsApp updated its app for the iPhone to send photos. User

growth spiked, even when WhatsApp charged users for its service. Having created a unique combination of imageand messaging apps as one socially powered app, WhatsApp decided to stay a paid service and grew while generating revenue.

276. By early 2011, WhatsApp was one of the top twenty paid apps in Apple's U.S. App Store.The company attracted the attention of venture capital firm Sequoia, and WhatsApp agreed to take $8 million of additional funding in addition to its original $250,000 seed funding.

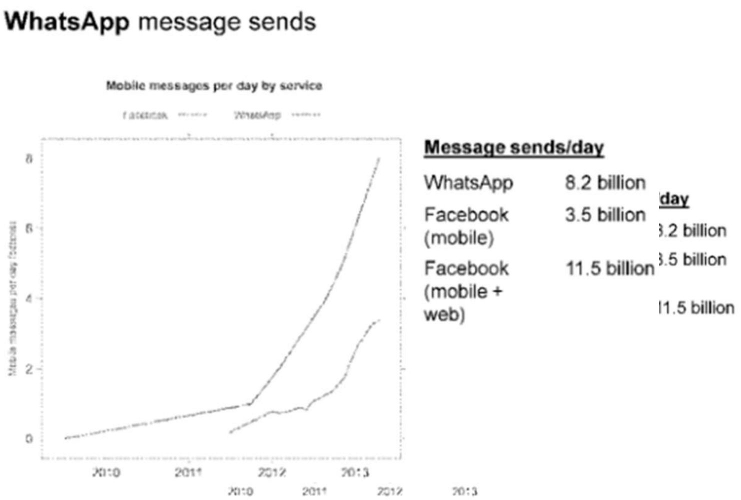
277. Two years later, in February 2013, WhatsApp's user base had ballooned to 200 million active users. That moth, WhatsApp raised additional funds—another $50 million from Sequoia, at a valuation of $1.5 billion.

278. Internally, Facebook had carefully tracked WhatsApp's rapid rise. Engagement data fromFacebook's Onavo spyware reported that WhatsApp was rivaling Facebook's own Messenger product, and held third place in terms of user reach among mobile messenger apps for iPhone in the U.S as of April 2013.



March % Reach	
Skype	17.1%
FB Messenger	13.7%
WhatsApp	8.6%
Viber	5.3%
Kik	4.7%
Voxer	3.8%
Tango	3.5%
GroupMe	2.4%
Line	1.4%
KakaoTalk	1.2%
MessageMe	0.5%

279. The broader picture was even more threatening to Facebook. As Buzzfeed recently reported, Onavo had tracked messages sent through WhatsApp and the number dwarfed Fakebook's ownmobile product by more than twofold.



Message sends/day

WhatsApp	8.2 billion
Facebook (mobile)	3.5 billion
Facebook (mobile + web)	11.5 billion

280. The same Onavo data reported by Buzzfeed showed massive engagement among WhatsApp users, placing it in fifth place behind Facebook's own core product; Facebook's newly acquired Instagram; Twitter; Foursquare; and Snapchat.

281. WhatsApp, although lacking Facebook's market reach, was drawing from the same pool of limited attention. Given Facebook's own fledgling Messenger App, WhatsApp exposed a massive vulnerability in Facebook's business model. WhatsApp was built on a social network derived directly from a smartphone user's contact list. It did not require Facebook's graph network for growth and could not therefore be shut down by revoking access to Facebook's APIs. Nor could Facebook demand that WhatsApp enter into a Whitelist and Data Sharing agreement.

282. WhatsApp posed a direct threat to Facebook's business, including the SDBE protecting its dominance. WhatsApp allowed for statuses, image sharing, and texting—all of the principal features of Facebook's core products. By 2013, the size of WhatsApp's network and the user engagement in that network made WhatsApp the most direct threat to Facebook's market dominance—and because of Onavo, Facebook knew it.

283. To ensure that it maintained its SDBE, and thereby its dominance of the Social Advertising Market, Facebook sought to remove WhatsApp as a competitor. As The Wall Street Journal reported, Facebook's Vernal internally commented in 2013: "Whats App launching a competing platform is definitely something I'm super-paranoid about." Vernal understood

that if WhatsApp created a rival platform, Facebook’s own scheme to exclude rivals by leveraging its Platform would fail—developers would migrate to the competing platform provided by WhatsApp.

284. Knowing about WhatsApp’s size, its engagement, and its unique potential to erode the SDBE protecting Facebook market dominance, Facebook moved aggressively to remove this existentialthreat from the competitive landscape. In late 2013, Facebook made an initial bid of $16 billion in stockfor WhatsApp. During negotiations in early 2014, Facebook raised its price to $19.6 billion—adding $3.6billion to the original price as compensation to WhatsApp employees for staying on board at Facebook. When all was said and done, Facebook ultimately paid close to $22 billion for WhatsApp.

285. But for the value of containing and shutting down the growth of WhatsApp’s competing social network and platform, the transaction made no possible economic sense to Facebook. WhatsApp’srevenues were a meager $10.2 million in 2013. Its six-month revenue for the first half of 2014 totaled $15.9 million, and the company had incurred a staggering net loss of $232 million in that same period. Facebook had paid twenty billion dollars—thousands of times WhatsApp’s revenues—to acquire a money-losing company that created software functionality Facebook itself already had as part of its ownproducts, and could easily build from scratch for a fraction of the cost of the acquisition if it wanted to.

286. At the time of the WhatsApp acquisition, Facebook’s user reach and user base and engagement was already massive—and unrivaled by any competing messaging app—but the addition ofWhatsApp’s user base further solidified Facebook’s dominance in the Social Advertising Market. Moreimportantly, however, Facebook had removed a serious threat to its SDBE. If WhatsApp and its nascentsocial platform were allowed to compete on the merits, Facebook would not have been able to leverage its Platform into continued dominance of the Social Advertising Market, including by using API access to shut down competing third-party apps and to demanding access to other apps’ most valuable social data as a condition for their existence.

287. Moreover, because the reach and engagement on WhatsApp generated (and generates) significant social data that Facebook could (and can) leverage and monetize through its mobile advertising channel, Facebook's SDBE strengthened as a result of the WhatsApp acquisition, fortifying Facebook's unrivaled dominance in the Social Advertising Market, and strengthening Facebook's abilityto exclude potential entrants to this market from gaining a foothold with a rival messaging or photo- sharing app.

X. THE RELEVANT MARKET

288. Plaintiff is a consumer and purchaser in the relevant market at issue in this case—the Social Advertising Market. Plaintiff is a direct purchaser of advertising products from Facebook and was anticompetitively harmed as a participant in the Social Advertising Market.

A. The Social Advertising Market

289. The Social Advertising Market is a submarket of online advertising, the latter of which includes banner ads, search-based ads, and advertising on social networks. Social advertising, however, is not fungible or interchangeable with these other forms of online advertising. Indeed, social advertisingallows advertisers to granularly target groups of users for ads by their attributes, including by the attributes of their networks.

290. Thus, because of the extensive ability to target advertisements to users on social media sites like Facebook, search and banner advertising are not reasonable substitutes.

291. Several relevant factors indicate that the Social Advertising Market is a distinct submarketof online advertising and more general advertising markets:

292. ***Industry or public recognition of the submarket as a separate economic entity.*** Social advertising is broadly considered to be distinct from other forms of advertising by market and industry participants. For example, the advertising company Outbrain describes the differences between social adson its blog as follows:

> Paid social ads are served via algorithms that define what the user might be interested in, based on past activity in their social accounts, such as likes, shares, and comments. Unlike search, which is a focused, goal-oriented activity, browsing on social is more relaxed. Think cat memes, vacation snaps, and fun quizzes.

> Nevertheless, the social platform has accumulated masses of data about every specific user, which can be leveraged to target specific audiences with ads that are likely to be of interest to them.

293. Outbrain explains that social ads are considered useful for a distinct purpose:

> Social ads are best for targeting audience segments who may be interested in your product or services, based on a range of targeting criteria—location, age group, gender, hobbies, interests. Social networks, such as Facebook, have advanced targeting capabilities, which means you can fine-tune your targeting criteria to reach a very specific, high-quality audience.

294. Outbrain explains that search ads are different, as they "are great for targeting customers when they are already looking for you (*i.e.*, they search your company name or product), or if they are searching for a specific product, service, or piece of information that you can provide." Outbrain also distinguishes social advertising from other forms of online advertising, like discovery advertising.

295. Moreover, providers of business statistics such as statista.com also provide information as to social media advertising as a distinct submarket of online and general advertising.

296. As another example, in March 2015, leading advertising publication AdAge referred to Facebook's Custom Audience targeting, which is unique to social advertising, as "potentially different and more special because they have this richer level of data."

297. Likewise, industry publication Marketing Land reported in an October 14, 2019 article that media agency Zenith, which is owned by Publicis Media, predicted growth in the social media advertising segment as distinguished from search and television advertising, with social media ads coming in third behind television and paid search advertising.

298. Even academic articles, including those published in the *Journal of Advertising*, have analyzed the market for social media advertising as a distinct segment, with well-defined engagement characteristics.

299. ***The product's peculiar characteristics and uses.*** Social advertising has a distinct purpose from other forms of advertising. Social advertising has different applications than other

forms of online advertising. Namely, social advertising allows granular targeting based on user attributes, user interests, and group attributes. Moreover, because of the detailed amount of information that can be collected about users as they engage on social media platforms, social advertising can seek out other users with similar behavioral characteristics.

300. Facebook, for example, describes its own targeting capabilities as follows:

> Facebook ads can be targeted to people by location, age, gender, interests, demographics, behavior and connections. You can also use more advanced targeting tools like Lookalike Audiences, which lets you target people similar to the people who already engage with your business, or you can layer your targeting options to select a more specific audience.

301. Facebook allows advertisers to create Lookalike audiences. Thus, unlike search or other forms of advertising where the ad is created and placed to reach a preexisting audience, Facebook is able to algorithmically combine a subset of its users to fit an advertisement. This capability is unique to social advertising.

302. As Facebook explains on its website:

> When you create a Lookalike Audience, you choose a source audience (a Custom Audience created with information pulled from your pixel, mobile app, or fans of your page). We identify the common qualities of the people in it (for example, demographic information or interests). Then we deliver your ad to an audience of people who are similar to (or "look like") them.

303. Because of the level of granular data Facebook collects from its users, it can provide targeting flexibility like no other advertising medium. As Facebook explains:

> You can choose the size of a Lookalike Audience during the creation process. Smaller audiences more closely match your source audience. Creating a larger audience increases your potential reach, but reduces the level of similarity between the Lookalike Audience and source audience. We generally recommend a source audience with between 1,000 to 50,000 people. Source quality matters too. For example, if a source audience is made up of your best customers rather than all your

customers, that could lead to better results.

304. Social advertising is also marked by the ability to algorithmically refine advertising targeting as users interact with the ads. For example, Facebook allows users to place a pixel on their website that is pulled off Facebook's servers when the site is accessed. Facebook is thus able to determinethe efficacy of ads run on Facebook once the user transitions to an advertiser's own website. Over time,Facebook's advertising becomes more targeted and more effective in terms of particular advertising goals, such as lead generation or online purchases.

305. Other social networks, such as Twitter, provide similar targeting abilities. Twitter, for example, allows targeting based on location, language, device, age, and gender, but also allows for the targeting of audience types, including algorithmically tailored and custom-created audiences.

306. These targeting features, which are available on social advertising platforms, are not comparably available as part of other forms of online advertising, such as display and banner ads or searchads.

307. ***Unique production facilities.*** Social advertising requires data collected from users on an inherently social application. A user's search history, for example, will not provide enough data to create highly targeted advertising features, such as Facebook's Lookalike Audiences. Likewise, passive advertising, such as banner ads, or even general magazine or publication ads, provides little granular datathat can then be used to further refine the targeting of advertising.

308. Providers of social advertising require specialized means of production because they mustrely on data harvested from engagement among networks of users to facilitate highly targeted advertising.Platforms capable of delivering social advertising must therefore provide functionality such as image andvideo sharing, messaging, matchmaking, content sharing, and other inherently social features in order toobtain the data needed to allow for granular user and user network targeting.

309. Because social advertising allows iterative refinement of target audiences, a

provider of social advertising must employ machine-learning or artificial intelligence algorithms that are trained on data collected from users as they interact and engage with content and advertising. As Facebook's head of its Applied Machine Learning Group, Joaquin Quiñonero Candela, told Wired magazine (emphasis inoriginal):

> *Facebook* today *cannot exist without AI.* Every time you use Facebook or Instagram or Messenger, you may not realize it, but your experiences are being powered by AI.

310. Other forms of advertising generally do not require sophisticated machine learning or artificial intelligence. For years prior to the advent of modern machine learning techniques, search engines such as Yahoo and Google used far less sophisticated algorithms to match user searches with suggested websites and, in turn, advertisements. Traditional advertising, such as magazine or television ads, require no algorithms at all, let alone artificial intelligence.

311. Distinct customers**.** Social advertising customers are distinct from search advertisers and passive display advertisers. Moreover, social advertising is generally more effective at targeted advertising rather than reaching a massive number of people.

312. Customers advertising on search engines are generally seeking priority among the searchresults returned given a particular keyword. Customers advertising on social media platforms are searching for users that fit a particular, predefined profile or set of characteristics. Small businesses thatdo not generally have the budget to bid on coveted search results are nonetheless able to bid on granularlydefined audiences on a social media platform like Facebook.

313. ***Distinct*** prices ***and sensitivity to price changes.*** Social advertising prices are distinct fromother forms of advertising. In search-based advertising, certain search keywords are bid up by many advertisers seeking to have their ads displayed as part of search results. This means that prices in certaincategories, such as legal or home improvement, will be significantly higher on search-based platforms than on social advertising platforms like Facebook. For example, legal ads are on average $1.32 on a cost-per-click basis on Facebook, whereas they are $6.75 on a cost-per-click basis on the Google Ads platform. Likewise, consumer services ads

are on average $3.08 on a cost-per-click basis on Facebook's platform vs. $6.40 on Google Ads.

314. Because bidding on Google Ads and other search-based advertising is zero sum, meaning only a certain number of ads can be coupled with a particular set of search keywords, pricing is more sensitive to changes in demand.

315. Social advertising, however, allows granular targeting, avoiding much of the zero-sum nature of other forms of advertising bidding. Moreover, social advertisers like Facebook can tailor audiences, reducing the likelihood that advertisers will have to compete for the same display opportunity at any given point in time.

316. Other general forms of advertising such as television and print are even more zero-sum, as there are limited time slots or available pages in a newspaper or magazine. Pricing is thus more sensitive to demand in these forms of advertising.

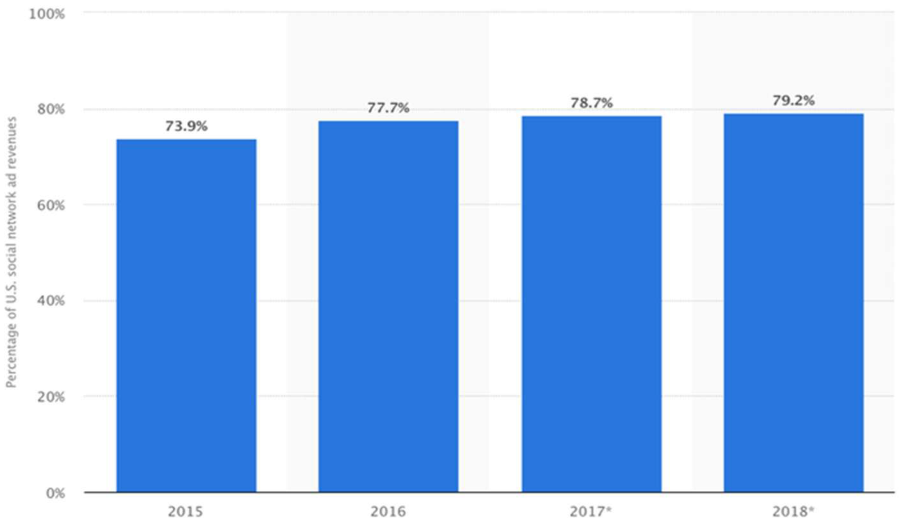
317. Social advertising is thus entirely distinct. Because of the ability to target audiences to advertising, pricing is proportional to the generality of the targeting, not simply to the general demand for a limited search term, key word, or periodical placement.

318. Moreover, Facebook has been able to consistently raise its prices in almost every year it has sold advertising without facing price pressures from competitors. On a cost per mille (CPM)—or cost per thousand advertising impressions—basis, Facebook's advertising prices grew 90 percent year over year according to a report at the end of 2019. In 2018, Vox reported that CPM prices on Facebook had increased 122 percent year over year. In 2017, Facebook's CPMs increased 171%. Facebook raised prices in prior years as well.

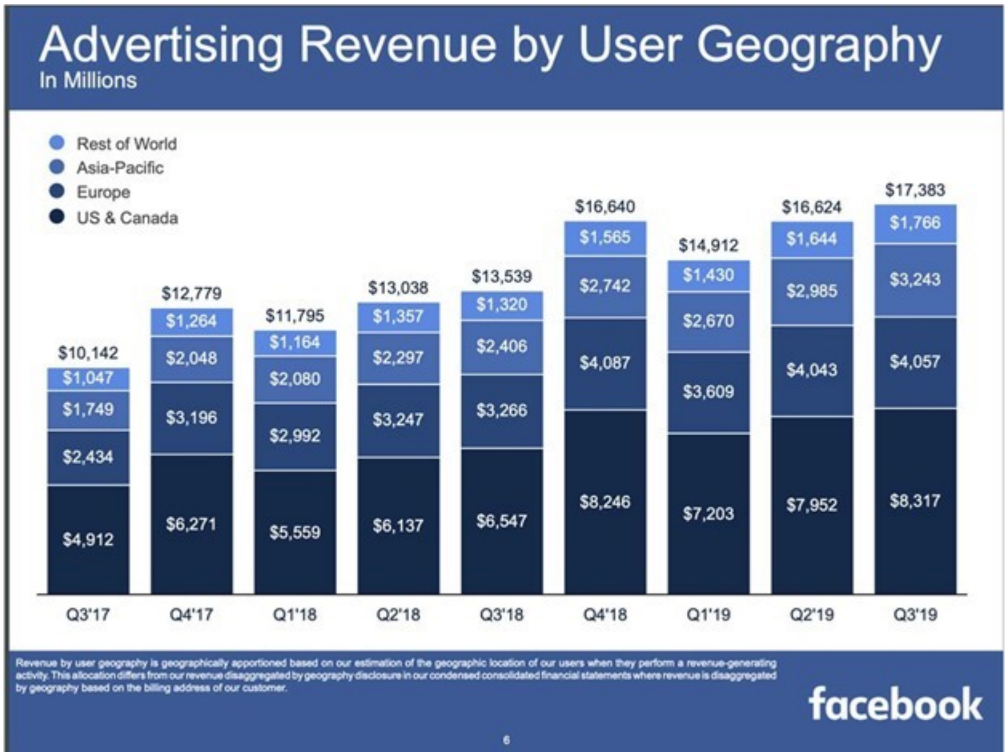
319. ***Specialized vendors.*** The Social Advertising Market has its own distinct and specialized vendors, namely advertising agencies such as Lyfe, Thrive, Volume Nine, Sociallyin, and Firebelly Marketing, all of which boast a specialization in social media advertising and provide specialized social media management products. There are many such specialty advertising agencies that specialize in creating social media advertising campaigns. Moreover, specialized social media analytics vendors also exist, such as Socialbakers, which provides aggregated analytics across social media platforms. There is an entire ecosystem of

vendors specializing in social advertising—an indicator that the Social AdvertisingMarket is its own distinct submarket of online advertising, requiring its own unique tools and expertise.

320. Facebook's revenue share of the Social Advertising Market is approximately 80%. Its share has been above 70% since 2015.



321. Facebook's advertising revenue has steadily grown both in the United States and globally. Facebook reported advertising revenues totaling $17.383 billion as of Q3 2019. Approximately $8.3 billion of that advertising revenue came from the United States.



Revenue by user geography is geographically apportioned based on our estimation of the geographic location of our users when they perform a revenue-generating activity. This allocation differs from our revenue disaggregated by geography disclosure in our condensed consolidated financial statements where revenue is disaggregated by geography based on the billing address of our customer.

322. From 2014 to 2016, Facebook's advertising revenues grew from $2.9 billion to $6.436 billion. During that period, and even before then, Facebook was one of the few social networks that significantly monetized its network by selling advertising. Other competitors did not come close, and Facebook established unrivaled dominance in the Social Advertising Market and maintains that dominance to this day.

323. Twitter, one of Facebook's only competitors to sell significant social advertising during the same period Facebook generated revenue in the Social Advertising Market, has never exceeded $800million in advertising revenues. Revenues in Q1 2012 were approximately $45 million, growing to $432million in Q4 2014, and standing at $702 million as of Q3 2019.

324. LinkedIn, another competitor that sells social advertising, generated roughly $2 billion inoverall annual revenue by the end of 2018, with some portion of that coming from advertising.

325. Considering the revenue generated by LinkedIn and Twitter, Facebook's advertising revenue accounts for approximately 86% of the total revenue share across the three largest firms competing in the Social Advertising Market. Excluding the contributions from

minor competitors that monetize their social networks, the HHI of the Social Advertising Market is approximately 7,685, well beyond what the DOJ considers a highly concentrated market.

B. Barriers to Entry

326. The Social Advertising Market is protected by the Social Data Barrier to Entry that prevents Facebook's competitors from entering the market. Without a critical mass of social data, marketparticipants in the Social Advertising Market cannot generate revenue.

327. Moreover, without adequate social data and engagement with the social network, marketparticipants cannot display content to users that would provide enough value to generate engagement andadditional social data.

328. Likewise, without a critical mass of social data, advertising targeting will not be possible or will be substantially diminished in effectiveness, thus reducing revenues in the advertising sales in theSocial Advertising Market.

329. A firm's market power in this market therefore depends on obtaining a critical mass of social data. Because of network effects, users will not use a social network that lacks enough social datato provide targeted content or to provide valuable connections to other users. However, once a certain amount of social data is obtained by a market participant, a feedback loop may form as a result of network effects, further increasing the amount of social data generated by the social network.

330. A new entrant must therefore expend significant amounts of investments in capital, technology and labor to create a network large enough to create the network effects necessary to competewith dominant firms in the market.

331. Because of the large amount of capital and social data required to successfully enter the Social Advertising Market, the SDBE effectively excludes entry by a new competitor, even a well-fundedone. Indeed, the SDBE prevented Google from successfully entering the market for social data and the Social Advertising market with its Google+ social networking product.

332. Although Google+ had successfully replicated Facebook's core functionality and

even added additional functionality to its software, its entry failed because it lacked the critical mass of socialdata that is required to reverse the network effects protecting Facebook. Without that critical mass, userswill not incur the costs of switching from Facebook's social network to a new entrant's social network. That is, a new entrant will not be able to provide a valuable network of engaged users upon entry to justifya Facebook user to change social networks.

333. That is precisely what happened to Google. Although it had a massive user base, it lackedengagement, which meant it did not provide a sufficient amount of social data that could be used to targetcontent and advertising to users. This, in turn, reduced the value of the entrant social network and accordingly the attraction of switching from Facebook's social network to Google's.

334. The SDBE continues to reinforce Facebook's dominant position. In fact, by excluding rivals and potentially competing social networks through the anticompetitive scheme described in this Complaint, Facebook strengthened the SDBE, providing it a larger share of social data and a stronger monetization channel through social advertising. The additional amount of social data increases the valueof its network, and the revenue from social advertising increases the cost of entry for a new rival.

335. Other barriers to entry in the Social Advertising Market include, but are not limited to, thehigh cost of development, data management, talent acquisition and retention, server infrastructure, development infrastructure, software technology, software libraries, and a brand and marketing presencesufficient enough to attract an engaged user base.

C. Relevant Geographic Market

336. The relevant geographic market is the United States Social Advertising market.

337. For the social data that fuels a social advertising product, social data must be compatible with the customers purchasing that data. Thus, social data about a foreign market may be of little use fora U.S.-based advertiser. The data may be collected in a different language, may involve interests more pertinent to a particular geographic region (*e.g.*, American Football vs. Rugby), and may contain a demographic of users that share a common culture or merely a

close proximity.

338. The same is true for the Social Advertising Market. An advertiser seeking to sell productsdesigned for consumption in the United States may not have any use for a platform's advertising targetingcapabilities outside of the United States. In the U.S., Facebook enjoys a higher market share of the SocialAdvertising Market than it does worldwide (which is already very high, as described in subsection VI.A).In short, Facebook enjoys an even more dominant share of the U.S. Social Advertising Market than it does globally.

339. In the U.S., Facebook's market share of the social data generated by users is even greaterthan its global market share. Services such as WeChat are geared towards Asian markets, particularly China, and do not generally compete in the U.S. market with Facebook's Messenger, Instagram, and coresocial networking product. Thus, Facebook's U.S.-based market share is even higher than its global market share referenced above in VI.A, which is already a dominant share of the Social Advertising Market.

XI. HARM TO COMPETITION AND ANTITRUST INJURY

340. Facebook's anticompetitive scheme had the purpose and effect of monopolizing the Social Advertising market in the United States. Facebook's conduct allowed it to maintain the monopoly and market power it had obtained by 2010 in the Social Advertising Market, and/or Facebook intended and attempted to acquire such a monopoly through its anticompetitive scheme.

341. Specifically, Facebook engaged in a series of acts in furtherance of its scheme, including,but not limited to: (a) the removal of important and necessary APIs from its Facebook Platform for the intended purpose of destroying competition in the Social Advertising Market; (b) the targeting of competitors for coercive Whitelist and Data Sharing Agreements on pain of denial of access to Facebook's Platform and APIs; (c) the use of secret surveillance software to identify and destroy potentialcompetitive threats; (d) the acquisition of rivals with the purpose and effect of strengthening the SDBE and increasing Facebook's market share and market power in the Social Advertising market; and (f) misleading developers about the stability of Facebook's

Platform to induce them to become dependent on Facebook's social data.

342. Facebook engaged in this conduct while possessing, and/or acting intentionally to obtain,market power in the Social Advertising Market. Facebook enhanced and/or maintained its market powerand monopoly through this scheme and then used it to exclude rivals and potential entrants from the Social Advertising Market (both directly and indirectly, by controlling supply and output of social data,a critical input for social advertising).

343. Facebook's anticompetitive scheme also reduced consumer choice by stifling innovationamong nascent and established competitors that relied on Facebook's Platform for their products and business and by entering into agreements that strengthened the SDBE.

344. In the alternative, Facebook's scheme had the purpose and effect of achieving a dangerousprobability of a monopoly in the United States Social Advertising Market.

345. Facebook's decision to remove the Friends and News Feed APIs excluded horizontal and/or direct competitors and rivals from the social data needed to fuel social advertising. Once a potentialthreat to Facebook or Facebook's SDBE is eliminated, that entity cannot (a) monetize social data by selling advertising; (b) accumulate social data sufficient to create a competing platform; and/or (c) evenpurchase social data from Facebook at full price.

346. The above decision allowed Facebook to monopolize and/or maintain a monopoly in the Social Advertising Market. Facebook's scheme allowed it to force chosen Platform developers to buy large amounts of advertising on its struggling mobile platform, NEKO, in exchange for continued accessto some or all Core APIs. At the same time, Facebook's demand for these developers' social data in exchange for continued access—including from competing social networks such as Pinterest and Foursquare—ensured that no rival social advertising platform could emerge, as Facebook would have a superset of its competitors' users' data. By gaining control over its competitors' social data—a critical resource for social advertising—Facebook was able to dominate the Social Advertising Market, gaininga monopoly share and sufficient market power to consistently and dramatically raise prices year after year.

347. Facebook sacrificed short-term profits in the Social Advertising Market for the

sole purpose of executing its scheme and excluding competition. It made no rational business sense for Facebook to exclude from its Platform the very entities that, if successful, would likely be the most ardentconsumers of Facebook's monetized social data and social advertising. Yet this is exactly what Facebookdid by leveraging API access in a manner that excluded nearly all Platform developers. As Facebook's own executives and managers admitted in internal communications, Facebook did this strictly for competitive dominance. Put simply, Facebook put the prospect of long-term dominance ahead of short- term profit.

348. Facebook knew that once its competitors were foreclosed from the Social Advertising Market by its anticompetitive scheme, Facebook would be free to charge monopoly prices for social dataand social advertising without facing any competitive price or quality pressure. In fact, Facebook has reduced the value it provides to users through privacy and feature innovation throughout and after it executed its anticompetitive scheme without sacrificing any significant marginal demand—a clear sign of its market power in the Social Advertising Market. Likewise, Facebook has increased the price of its targeted advertising throughout the period of its anticompetitive scheme and to the present, also a sign of its market power in Social Advertising Market.

349. Facebook's Whitelist and Data Sharing agreements ensured that Facebook would controlcompetitive threats to its platform and extract their most valuable asset—their social data. Facebook, byrequiring Whitelist and Data Sharing agreements by competitors, ensured that these competitors, some of which were competing social networks, could not become alternative platforms for developers. That meant that when Facebook excluded other developers from the market, they were completely foreclosedand would have no reasonable alternative.

350. After excluding applications that competed with it from obtaining social data or from the Social Advertising Market, Facebook was left with competition from entirely independent apps, which did not rely on Facebook's social data, APIs, or advertising. Rather than compete on the merits with thesecompetitors, Facebook secretly spied on users using the Onavo data and the Onavo assets that it acquired,identifying potentially competitive threats and then

acquiring the companies that built those threateningproducts, often at economically irrational prices.

351. Facebook used the Onavo data and Onavo-based spyware it owned or had in its possessionto track Instagram use. When Instagram's engagement and user reach indicated that it was a potential competitive threat to Facebook, Facebook acquired Instagram and operated it alongside its products, and presently seeks to complete integration of the product with Facebook's other major properties.

352. Likewise, Facebook secretly tracked mobile users' use of WhatsApp, and when Facebookdetermined that WhatsApp threatened to become a platform entirely independent of Facebook's networkand social data, it purchased WhatsApp—at an economically irrational price of thousands of times the company's revenue.

353. By acquiring potential threats independent of its platform, particularly WhatsApp and Instagram, Facebook ensured that such companies could not be (a) alternative platforms upon which developers excluded by Facebook's API removal could build their apps; (b) alternative sources of socialdata that could be monetized through Social Advertising; or (c) alternative social networks that would attract users, developers, and advertisers, thereby weakening the SDBE protecting Facebook's business.

354. Facebook's past integration of these acquired assets and its continuing effort to integrate these acquired assets has continuing anticompetitive effects, and threatens to increase and/or maintain Facebook's dominance in the Social Advertising Market.

355. Facebook also used Onavo and the Onavo assets to maintain a real-time view of users' mobile application use and mobile traffic. Facebook used that real-time information to monitor, punish, or acquire any competitive threats. Indeed, Facebook used Onavo surveillance data to target threats for denial of access to crucial APIs; for Whitelist and Data Sharing Agreements; or for targeted removal fromthe market through acquisition.

356. The net effect of Facebook's scheme was to, *inter alia*, strengthen and maintain the SDBE,protect its monopoly in the Social Advertising Market, prevent market entry by a

potential rival, and reduce consumer choice.

357. Facebook's scheme also ensured that there would be no competition by a rival social advertising platform on non-price bases, such as, for example, increased privacy, more features, higher quality features, new features, more valuable social connections, reduced advertising to users, or new usecases. The scheme also foreclosed new or alternate business models by competitors or potentialcompetitors, including the business model Facebook itself forwent and sacrificed for anticompetitive purposes—charging developers and competitors for API / Platform access or advertising.

358. Facebook's anticompetitive scheme has also allowed it to raise prices for social advertising during and after the execution of the scheme. Facebook continues to be one of the only sourcesfor targeted social advertising in the United States and in most of the world. As evidence of its market power in the Social Advertising Market, Facebook has raised prices without sacrificing any demand.

359. Facebook's anticompetitive scheme excludes developers and would-be competitors fromthe Social Advertising market; commandeers and restricts output of social data, a critical resource for social advertising; and strengthens the SDBE protecting Facebook's business. All of this has resulted insustained and increasing supracompetitive prices for Facebook advertisements. Plaintiff (andthe persons, entities, and companies in the proposed Classes) bought Facebook advertisements at supracompetitive prices inflated by Facebook's anticompetitive scheme.

360. Plaintiff therefore was, and is, harmed in its business and property: it was overcharged for advertising as a result of unlawful, anticompetitive conduct by Facebook.

XII. CONCEALMENT AND TOLLING

361. Until no earlier than November 6, 2019, Plaintiff did not know, and could not reasonably have known, the truth about Facebook's anticompetitive conduct, including its purpose and intent to engage in anticompetitive conduct and the resulting price inflation, as alleged in this Complaint.

362. As set forth below, Facebook, its executives, officers, and senior employees affirmativelyacted to prevent the disclosure of the truth, including through (a) enforcing a strict code of silence withinthe organization, (b) preventing disclosure to developers and the public during and after the scheme, (c)continuing to evangelize the Core APIs knowing that they were slated for removal for competitive reasons, (d) misleading developers and the public about the reasons for the removal through pretextual explanations, including by falsely stating that the APIs were being removed to provide users more controlover their data or out of concern for user privacy, and (e) misleading regulators and the public about acquisitions, including of WhatsApp and Instagram. This conduct individually and taken together ensured that the levee would not break and that developers and advertisers would not pursue claims for fraud or anticompetitive conduct.

363. In fact, the levee did not break for years. It was not until internal documents came to lightrevealing the true, non-pretextual reasons for Facebook's anticompetitive conduct, including the purported removal of the APIs as well as the lack of legitimate technical or business purpose for the purported removal; the anticompetitive effect and existence of the whitelisting agreements made in exchange for advertising purchases or user data; the capture, clone, or kill strategy implemented by Facebook; and the anticompetitive effects of its acquisitions of WhatsApp and Instagram, including the intended use of these assets, which was hidden from regulators and the public to obtain regulatory approval.

A. Facebook Made False Statements About the Availability of the API Functionality and Omitted from Those Statements that Facebook Had Internally Decided to Remove the APIs

364. During the period from September 2011 through April 2014, Facebook repeatedly told developers and the public that the functionality of the Core APIs as well as other functionality removed in April 2015 was available to them to be used as part of their applications. These false statements, omissions, and half-truths created a duty to speak fully and truthfully. As explained below, Facebook never did so—not even after it removed the Core APIs from its Platform.

365. During training sessions, hackathons, meetups, and conferences, many of which were posted on Facebook's public YouTube channel, Facebook's employees and executives evangelized the Core APIs to developers and other viewers. Facebook did so to ensure that developers and the public would not learn of the truth—that Facebook had internally begun the process of auditing apps to be slatedfor destruction. If the truth were known, developers would have fled the platform, destroying Facebook'sability to anoint winners in various app categories and to destroy their actual and potential competitors by exploiting their reliance on the platform. For example:

(a) On June 20, 2012, Cox presented the Ticketmaster app as a case study for what developers could do on Facebook's platform. Specifically, Cox noted that the Ticketmaster app would allow users to see "which night your friends were going to the concert," but the very API thisapp would have relied on was slated for deprecation with respect to any developer that wouldnot ultimately enter into an agreement with Facebook for data or advertising.

(b) On October 20, 2013, Zuckerberg gave a speech that touted photo sharing by developer appsand stated that it was an opportunity for developers to monetize their apps. The APIs that wererequired for such an app, however, had already been restricted as of the date of his statements. During the same speech, Zuckerberg claimed that developers would have access to user photosfor their own apps, but at the time he made the statement, Facebook had already planned to remove that functionality from its platform.

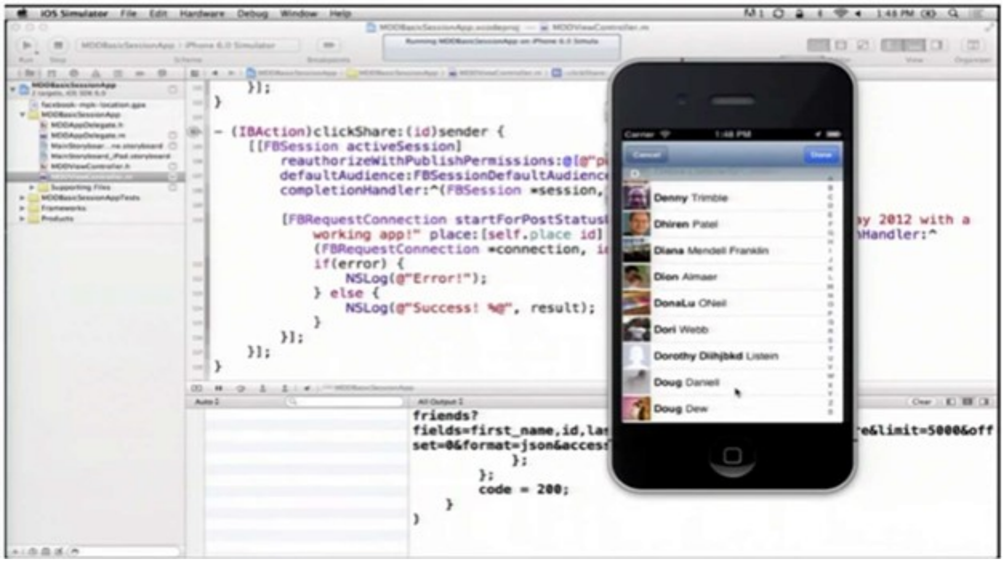
(c) On February 28, 2013, in a developer video published on Facebook's public YouTube channel, entitled "Getting started with Facebook SDK for iOS," Facebook's Product Manager of the Mobile Platform, Eddie O'Neil, taught developers how to build applications that accessa user's friends' data by building one with the developers in the audience. He showed how tomake a request to "get back photo albums from five friends" and then towards the end showsthe finished application stated: “Here are all my friends . . . As I scroll here, you see that we haven’t brough all the friend pictures in yet, but as we bring them in we’ll stick them in that cache and hold on to them . . . when we come back to display this it’s instantaneous,” meaningthat the app can show all the friends’ photos in as single request to make it very easy for developers to use this data in their applications. The presentation, including statements aboutthe demonstrated functionality, was false and misleading, as Facebook had internally alreadybegun the process of removing the very functionality that was being evangelized.

(d) At a developer conference in Moscow, which was posted on Facebook’s developer YouTubepage on February 28, 2013, and entitled “Introduction to the Facebook Platform,” Simon Cross of Facebook demonstrated the use of several of the APIs, including the Friends and News Feed APIs that were slated for removal by Facebook at the time of the demonstration and while the presentation remained on the YouTube developer page. Cross never mentioned Facebook’s internal plans to remove the very functionality he advertised to developers. If he had told the truth, developers would have fled the platform and Facebook’s anticompetitive scheme would have unraveled.

(e) At the same February 28, 2013 conference, another Facebook employee, Tom Elliot, demoedthe publishing of information from a mobile app to a user’s timeline as well as to the timelineof a user’s friends, noting that Facebook’s Graph API allowed posts from a mobile app “on the timeline of the user and the news feed of the friend of the user—these are people who havenever used your app before.” This is precisely the functionality that would require the Friendsand News Feed APIs, yet Facebook and its employees never once mentioned that they were internally planning to remove that functionality with respect to certain apps that either (i) didnot provide advertising or data to

Facebook in exchange for continued use or (ii) were slatedfor destruction after Facebook's audit of apps on its Platform.

(f) At Facebook's Mobile Developer Day in November 2012, Facebook again evangelized the ability to use the Friends and News Feed APIs as part of mobile applications. Indeed, the presentation displayed the ability to traverse a user's friends as part of the test app and to postto a defined audience of friends, as well as to the news feed. The presentation was false and misleading because the functionality being demonstrated was slated for removal with respectto most of the apps on Facebook's Platform. Developers who viewed presentations like the one at the Developer Day conference would be allowed to build their entire business on functionality that Facebook knew it planned to remove.



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DonaLu ONeil
Dori Webb
Dorothy Dilhjbkd Listein
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Doug Dew

(g) In a June 26, 2013 video posted on Facebook's public YouTube page for developers,Facebook touted the work done by one of its partners, Fab.com, which again demonstrated Friends and News Feed API functionality that was slated for removal. The video features a Fab.com employee stating that using the Graph API, they were able to "take everything theyhave in the catalog and narrowly target to a customer" to "see a product on Facebook and thenshare with their friends." Again, Facebook omitted that it was planning to remove the very APIs that made the featured functionality possible and did so because revelation of the truth would have prematurely ended its anticompetitive scheme before it could be completed.

(h) Facebook was consistently misleading about the functionality available to developers throughthe News Feed and Friends APIs. On June 20, 2013, Simon Cross, in a training video published on Facebook's YouTube Channel, entitled "Getting Started with Graph API," presented "[a]n introduction to Facebook's Graph API which is the primary way to programmatically integrate with Facebook—publishing Open Graph stories, reading data about the current user—their details, their likes and interests and friends." The video referenced Facebook's posted developer documentation, and notably featured the following false and misleading statements about the functionality provided by the Graph APIs, including the Friends and News Feed APIs:

> Graph API Explorer make it really easy to get started . . . Placed, Pages, Photos, Events and News Feed stories as well as Users are all considered objects in the graph We can go deeper and deeper into the graph. We can also request the picture connection on each returned User object. Thiswould allow me to show the profile picture of each of my friends and to get all of this data in a single request.

366. These statements identified above were false and misleading not only because they were designed to induce developers to build for functionality that was slated for selective removal, but becausethe statements maintained the secrecy needed for the anticompetitive scheme's success. Facebook knewthat if developers found out the truth, they would flee the Platform and cease making apps that increasedthe value of Facebook. Without the proliferation of apps on its Platform, Facebook could not choose the"winners" among them for continued access while eliminating any actual or potential competitors whenit eventually removed the

APIs.

367. These false statements from the end of 2011 through the removal of the APIs in April 2015 created a clear duty to speak fully and truthfully. When Facebook finally announced and purportedto remove the APIs, it breached that duty, preventing developers and the public from learning the true reasons for the purported removal of the APIs.

B. Facebook and Its Employees Maintained a Code of Silence about the Scheme in theFace of a Duty to Speak

368. Facebook senior executives, including Mark Zuckerberg, acted internally to ensure that the purported removal of the APIs, the reasons for the purported removal, and the overall anticompetitivescheme was kept a secret.

369. For example, when Facebook senior executives began plans to announce Zuckerberg's decision to remove the APIs and to enforce reciprocity, Zuckerberg vetoed the decision in December 2012.

370. When Sukhar raised the need to inform developers of Facebook's internal plans for the APIs—namely, their removal for competitive reasons—Vernal told him that any mention of the competitive reasons for the purported removal would mean a "high likelihood of breaking into jail." Sukhar did not at any point reveal the truth to developers or the public, even though he internally observedthat he had been speaking to dozens of developers "who will get totally fucked by this and it won't evenbe for the right reason." In fact, he acquiesced to the scheme, referring to it as the "switcharoo plan" whenspeaking to other Facebook engineers.

371. Facebook's George Lee raised the fact that Facebook was continuing to mislead developers about the APIs, even on the eve of the announcement of their purported removal, stating to Purdy and Vernal that "partner managers are still selling products that we ask them to sell, so when it comes to feed integration, we're still telling people to use [Open Graph]." He noted that Facebook had "decided amongst ourselves that this is no longer the future" but that developers were being told something different. Vernal, Purdy, and Lee all knew that Facebook was going to purport to remove theFriends and News Feed APIs, but none of them stopped

Facebook from telling developers or the public otherwise. These systematic and knowingly false statements to developers and the public created a dutyto speak fully and truthfully, but Facebook never did so.

372. All of this conduct instilled in Facebook's employees a need for secrecy. Even when theyraised issues with their superiors, none of them would correct the systematic false statements Facebook was making to developers and the public contemporaneously with their internal execution of the schemeto remove the APIs for competitive reasons, including the internal audit of apps. They failed to correct those statements notwithstanding that their false statements about the Platform and its available functionality created a duty to speak fully and truthfully. For example, as described fully above, in internale-mails to other Facebook executives and employees, Sukhar recounted conversations with developers during which he did not disclose the truth about the APIs.

C. Facebook Lied to Developers and the Public About the Reasons for the PurportedRemoval, Offering False, Misleading, and Pretextual Reasons Instead of the Truth

373. At the April 30, 2014 Facebook F8 developers conference, Facebook misleadinglydownplayed the announcement of its purported removal of the APIs by folding it into its announcement of new Facebook authentication features, including changes to Facebook's Login system. Zuckerberg never mentioned during his keynote or any time during the conference that the most central APIs on thePlatform, the Friends and News Feed APIs, were purportedly being removed. Instead, the announcementwas buried at the bottom of a public FAQ released during the conference. The FAQ falsely stated that "we are removing several rarely used API endpoints; visit our changelog for details."

374. This public statement was false because Facebook had internally surveyed the apps relyingon the APIs and found that thousands of them relied on those APIs. They were not in any sense "rarely used." The false statement was made to avoid drawing attention to Facebook's radical decision to announce the purported removal of the Friends and News Feed APIs. By making a public false statementabout the reasons for the purported removal of the APIs,

Facebook assumed a duty to speak fully and truthfully on the subject. It did not do so.

375. Facebook's public announcement of the purported removal of the Friends and News FeedAPIs was deliberately designed to mislead, as it was announced as part of a broader Facebook Login announcement that was supposedly intended to increase user control over data. Indeed, in a public blog post made on the day of the announcement, Facebook's Jeffrey Spehar stated that the changes were madebecause "people want more control over sharing their personal information" and because "[w]e've heardfrom people that they're often surprised when a friend shared their information with an app."

376. Facebook never mentioned that it had internally audited apps to determine whether they were competitive and that senior executives had internally stated that the decision was being driven by competitive reasons, not legitimate business or technical reasons. Indeed, Facebook never mentioned thatits own engineers thought the removal of the Friends and News Feed API was beyond parody and "insane." The statements about user feedback as the reason for the decision were pretextual andmisleading.

377. Between the announcement and the removal of the APIs in April 2015, Facebook continued to make false and misleading statements and omissions to developers and the public about thepurported removal of the APIs, including about the reasons for the purported removal.

378. For example, Facebook told developers and others who inquired that the APIs were "goingaway." Indeed, Konstantinos Papamiltiadis told developer Airbiquity on March 30, 2015, precisely this:"there are certain things that are going away on 4.30 that we can't provide extensions for," naming the Friends and News Feed APIs explicitly in an e-mail to Airbiquity's product manager. At no time did Papamiltiadis or anyone else at Facebook tell the full truth—that it was secretly making deals with countless developers it had hand-selected for continued use in exchange for their social data and other compensation.

379. On March 30, 2015, Papamiltiadis also told Microsoft the same thing: that the APIs weregoing away after April 30, 2015. Again, he never mentioned that in fact Facebook had made secret dealswith certain developers.

380. These statements indicate that Facebook's statements were broad and systematic, designedto mislead developers and the public into thinking that Facebook had evenhandedly applied its policy toall developers alike. If the truth were known, developers (and other interested parties, including membersof the press) would have not only complained, but pursued the true reasons for Facebook's purported withdrawal, which is why Facebook was careful to make false statements to developers and other interested parties whom Facebook had not selected for continued use.

381. Even in a blog post from April 30, 2015, the date the APIs were purportedly removed, Facebook claimed that "Facebook is migrating all apps to v2.0 of the Graph API with the goal of givingpeople more control over the information they share with apps." That was not, however, the goal of the purported API withdrawal. Facebook had internally made the decision for competitive reasons and had no legitimate technical or business justification for the decision. Indeed, documents during the several years Facebook and its senior executives planned and executed the scheme reflect that the APIs were being purportedly withdrawn for competitive reasons, not for increasing user control over shared information.

382. Facebook continued to mislead developers and the public by offering pretextual reasons for the purported withdrawal of the APIs. Simon Cross frequented developer message boards, includingthe widely-read public message board Stack Overflow, and referred developers and others asking questions about the APIs to Facebook's public documentation and FAQ. The FAQ stated:

> Why are you deprecating the permissions to get information about people'sfriends?
>
> To put people first. This update was in response to feedback from people who were uncomfortable knowing that a friend could share their information with an app. With Graph API v.2.0, we wanted to make sure the people had more control over their information.

383. The reasons offered by the public FAQ were false and misleading and omitted material information. Namely, the FAQ's statement that the purported removal of the APIs was

in response to user feedback was false, and mere pretext designed to mislead developers and the public as to the real reasons for the purported withdrawal of the APIs. In fact, Facebook had made the decision approximatelythree years earlier, as part of Zuckerberg's mandate that a policy of reciprocity be enforced as to developers and that competitive apps be prevented from using Facebook's APIs. Indeed, Facebook had used information gleaned from spying on users to measure their engagement with apps, and had performed an internal audit to determine which apps were competitive or potentially competitive with Facebook so that they could be marked for destruction. Facebook's internal executives, including Sukhar, lamented that the purported removal of the APIs was not based on any legitimate technical reason, and Facebook's own engineers opposed the decision. None of these executives and employeescontemporaneously cited user feedback as even a purported reason for the removal of the APIs.

384. Moreover, by speaking partially, falsely, and misleadingly to the public about the reasonsfor the purported API withdrawal, Facebook was under a duty to speak fully and truthfully on the subject. It did not do so. Instead, it omitted (a) that the plan to purportedly deprecate the APIs had been made years prior to the announcement by senior executives, (b) that the reasons for the purported removal werecompetitive, not because of user feedback, and (c) that Facebook had hand selected certain apps for continued use of the APIs. Indeed, Facebook not only omitted that it was broadly entering into extended API agreements, it made false and misleading statements to the contrary in its public FAQ, including that"[w]e've removed access to friends data in v.2.0" without any mention of the extended API agreements it was entering with certain app developers.

385. The announcement, FAQ, documentation, and posts to developer message boards misleddevelopers and the public. They accepted the pretextual reasons for the purported API removal after reading or otherwise consuming Facebook's communications (including documentation, message boardanswers, and videos) posted after the announcement. If they had known the truth, they would have inquired further into the real reasons for the withdrawal (and so would the press), but Facebook's false statements successfully prevented any further inquiry.

386. Facebook was careful even when it referenced the purported April 2015 withdrawal of theFriends and News Feed APIs to continue to offer a false, misleading, and pretextual rationale for the decision. Indeed, when Facebook announced additional Platform changes on March 26, 2018, senior executive Ime Archibong referenced the purported API withdrawal and an investigation into apps that had access to a large amount of information before the purported withdrawal as part of a broader initiativeto prevent “misuse” of user data and to implement “additional measures to protect data” and give “people more control of their information.” That was not, however, the real reason for the purported withdrawalof the APIs in April 2015, and Facebook again failed to mention the real reasons for doing so despite undertaking a duty to speak fully and truthfully, including when it again spoke publicly on the subject inMarch 2018.

387. Even after certain internal Facebook documents became public after the UK Parliament used its legal powers to seize them on November 24, 2018, Facebook continued to make false and misleading statements to conceal from developers, the public, and the press the real reasons for the purported API withdrawal.

388. In a public blog post by the company posted on December 5, 2018, Facebook stated falselyand misleadingly that extended API agreements to access the purportedly withdrawn APIs were grantedto developers in the “short term” and “only used to prevent people from losing access to specific functionsas developers updated their apps.” The blog post also stated that the changes to the APIs were made to prevent the improper access to user data that occurred as part of the Cambridge Analytica scandal. That was not, however, the reason Facebook purported to remove the APIs. In fact, Facebook continued to allow broad access to user data for hand-selected apps that entered into agreements with Facebook to provide their social data back to Facebook or provide other compensation, such as large advertising purchases.

389. On November 6, 2019, NBC News posted the full trove of documents seized by the UK Parliament on its website. For the first time, Facebook’s statements to developers and the public were revealed to have been false, misleading, or having omitted material information.

This was the first time any developer or advertiser—or anyone in the public—could have learned the real reason for the purported withdrawal of the APIs: anticompetitive reasons. It was also the first time developers,advertisers, and the public could learn (1) that Facebook internally viewed the purported withdrawal as lacking any legitimate business or technical justification, and (2) that the scheme had broad impact on competition.

D. Facebook Misled Regulators and the Public About Its Integration of Instagram andWhatsApp with Its Facebook Product

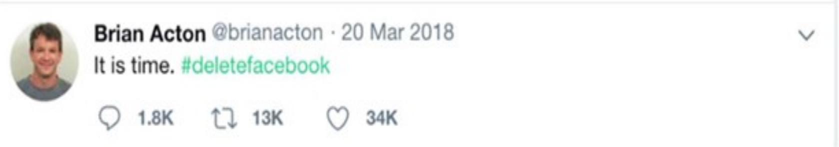
390. At the beginning of this year, Facebook scrambled to integrate the backends of its Facebook products with its acquired products, WhatsApp and Instagram. Until that integration, Facebookhad largely maintained the separateness of the products, but in response to threats of divestiture from antitrust regulators, Facebook began an aggressive effort to integrate the backends—the brains of each product—reneging on promises to regulators to keep the products separate and to frustrate any divestiture ordered.

391. When it acquired WhatsApp, Facebook publicly stated that it would operate WhatsApp independently from its other Facebook properties, but that turned out not to be the case. Indeed, the European Union found Facebook lied to regulators about its integration plans for WhatsApp and fined Facebook € 110 million. The EC regulator explained the reasons for its fine in a press release, dated May17, 2017:

> The European Commission has fined Facebook €110 million for providing incorrect or misleading information during the Commission's 2014 investigation under the EU Merger Regulation of Facebook's acquisition of WhatsApp . . .
>
> When Facebook notified the acquisition of WhatsApp in 2014, it informedthe Commission that it would be unable to establish reliable automated matching between Facebook's users' accounts and WhatsApp users' accounts. It stated this both in the notification form and in a reply to a request for information from the Commission. However, in August 2016, WhatsApp announced updates to its terms of service and privacy policy, including the possibility of linking WhatsApp users' phone numbers with Facebook users' identities.

> On 20 December 2016, the Commission addressed a Statement of Objections to Facebook detailing its concerns.
>
> The commission has found that, contrary to Facebook's statements in the 2014 merger review process, the technical possibility of automatically matching Facebook and WhatsApp users' identities already existed in 2014, and that Facebook staff were aware of such a possibility.

392. Facebook had lied to regulators. It was always capable of integrating its advertising targeting systems and in fact had done so. After the acquisition, WhatsApp's founder Brian Acton quit in PROTEST IN March 2018, stating on Twitter: "it is time. #deletefacebook."



Brian Acton @brianacton · 20 Mar 2018

It is time. #deletefacebook

393. Consistent with the EC's finding, Acton believed Facebook misled European Union regulators about its plans to comingle WhatsApp and Facebook data for use in its ad targeting system. And, despite Zuckerberg's promise that he would not try to monetize WhatsApp for five years, Facebook almost immediately began exploring the monetization of WhatsApp without its founders' consent. Actonleft behind $850 million in stock when he quit in protest.

394. WhatsApp's other co-founder, Jan Koum, left in April of 2018. Instagram's founders Kevin Systrom and Mike Krieger followed suit shortly after, resigning from Facebook in the Fall of 2018.

395. With the founders of its two acquired competitors—Instagram and WhatsApp—gone, bylate 2018 Facebook had unfettered internal license to integrate two of the most powerful rival social networks with Facebook's core business.

396. Facebook, however, knew it was vulnerable to divestiture of the acquired assets if it continued to operate them independently, and the integration of its assets would give it unprecedented control over user social data globally.

397. Zuckerberg and Facebook immediately devised a plan to integrate backends of

theWhatsApp, Instagram and Facebook products. On March 6, 2019, Zuckerberg announced a plan to integrate the apps on his blog, pretextually cloaking the maneuver as a privacy-related decision to frustrate regulators and hide the anticompetitive effects of his integration of the acquired products. Facebook's announced plan would implement a unitary form of end-to-end encryption across itsmessaging and photo sharing apps, and would integrate the acquired assets (WhatsApp, Instagram, and their respective social data) to make them interoperable with—and inextricable from—Facebook's core product.

398. Although Facebook had prior to the backend integration created interoperability across itsapplications of its tracking and surveillance infrastructure, the full integration of the so-called backend provides Facebook with surveillance, advertising targeting, and market power incomparable from any other social network (and likely any other private entity) on earth. The integration would ensure that Instagram and WhatsApp networks can also never become viable platform alternatives to Facebook's Platform. Indeed, once integrated, Instagram and WhatsApp would not be alternatives but part and parcelof the very Facebook Graph API and Platform the company has anticompetitively leveraged dominancein the Social Advertising market to the detriment of thousands of advertisers, including Plaintiff and Class Members herein.

399. The back-end integration is a game changer—and directly reneges on Facebook's statements to regulators about its ability to merge the apps together and to consolidate market power. Theintegration means that 2.6 billion users across Facebook, WhatsApp and Instagram would be interoperably reachable across platforms for the first time, creating a massive and unprecedentedconcentration of market power in the Social Advertising market.

XIII. CLASS ACTION ALLEGATIONS

400. The Class's claims all derive directly from a course of conduct by Facebook. Facebook has engaged in uniform and standardized conduct toward the class. Facebook did not materially differentiate in its actions or inactions toward members of the class. The objective facts on these subjectsare the same for all class members. Within each Claim for Relief asserted by the class, the same legal standards govern. Accordingly, Plaintiff brings this lawsuit as a class

action on its own behalf and on behalf of all other persons similarly situated as members of the proposed class pursuant to Federal Rulesof Civil Procedure 23(a) and (b)(3) and/or (b)(2) and/or (c)(4). This action satisfies the numerosity, commonality, typicality, adequacy, predominance, and superiority requirements of those provisions.

Nationwide Advertiser Class

401. Between April 4, 2018, and the present, Facebook advertisers, including Plaintiff, have been governed by materially common terms of service, which applied specifically to "commercial" Facebook accounts during this time period.

402. Plaintiff brings this action and seek to certify and maintain it as a class action under Rules 23(a); (b)(2); and/or (b)(3); and/or (c)(4) of the Federal Rules ofCivil Procedure on behalf of itself and a Post-2018 Nationwide Advertiser Class defined as follows:

> All persons, entities, and/or corporations in the United States who purchased advertising from Facebook between April 4, 2018, and the present, and were thereby injured by anticompetitive price inflation in the Social Advertising market (the "Post-2018 Class Period").

403. Excluded from the Nationwide Advertiser Class is Facebook, its employees, officers, directors, legal representatives, heirs, successors, and wholly or partly owned subsidiaries or affiliates; and the judicial officers and their immediate familymembers and associated court staff assigned to this case.

Numerosity and Ascertainability

404. The class in this action satisfies the requirements of Fed. R. Civ. P. 23(a)(1). Thousands of persons, entities, and/or companies nationwide purchased advertising from Facebook during the Class Period. Individual joinder of all Class members is impracticable.

405. The Class is ascertainable because its members can be readily identified using Facebook accounts, Facebook Ads registrations, and other records and information kept by Facebook orthird parties in the usual course of business and within their control. Plaintiff anticipates providing appropriate notice to the certified Class, in compliance with Fed. R. Civ.

P. 23(c)(1)(2)(A) and/or (B), to be approved by the Court after class certification, or pursuant to court order under Fed. R. Civ. P.23(d).

Predominance of Common Issues

406. This action satisfies the requirements of Fed. R. Civ. P. 23(a)(2) and 23(b)(3) because questions of law and fact that have common answers are the same for each Class member and predominate over questions affecting only individual Class members.

407. Common issues include, without limitation, the following questions of law and fact:

a. Whether Defendant monopolized the Social Advertising Market.

b. Whether Defendant, its employees or affiliates, intended to monopolize the SocialAdvertising Market.

c. Whether Defendant attempted to monopolize the Social Advertising Market.

d. Whether Defendant possessed monopoly or market power in the Social Advertising Market.

e. Whether user data and data obtained by third parties created a Social Data Barrier to Entry that protected Facebook's market position and/or monopoly, reduced competition or entry in the Social Advertising Market, and/or increased prices for products in that market, including, but not limited to, advertising sold to members of the proposed Classes.

f. Whether Defendant's decision to withdraw the Friend and Feed Graph APIs lacked any justification and/or whether the procompetitive effects of the decision to do so, ifany, was outweighed by the anticompetitive effects.

g. Whether Defendant sacrificed short-term profits to monopolize, or attempt to monopolize, the Social Advertising Market.

h. Whether the procompetitive effects of the decision to withdraw the Friend and Feed Graph APIs, if any at all existed, could have been accomplished by less restrictive means.

i. Whether Defendant's agreements with whitelisted developers violated Section 2 of the Sherman Act, including whether the agreements restrained trade or strengthened the Social Data Barrier to Entry.

j. Whether Defendant's purchase of WhatsApp violated Section 2 of the Sherman Act.

k. Whether Defendant's conduct harmed competition in the Social Advertising Market.

l. Whether Defendant's conduct caused price increases or the reduction of consumer ordeveloper choice in the Social Advertising Market.

m. Whether Defendant's unlawful conduct was a substantial contributing factor in theinjury to members of the Class.

Typicality

408. This action satisfies the requirements of Fed. R. Civ. P. 23(a)(3) because the Class and Plaintiff's claims are typical of the claims of other Class members and arise from thesame course of conduct by Defendant. The relief Plaintiff seeks is typical of the reliefsought for the absent Class members.

Adequate Representation

409. Plaintiff will fairly and adequately represent and protect the interests of the Class. Plaintiff has retained counsel with substantial experience in prosecuting antitrust and consumer class actions, including actions involving defective products.

410. Plaintiff and its counsel are committed to vigorously prosecuting this action on behalfof the Class and have the financial resources to do so. Neither Plaintiff nor its counsel have interestsadverse to those of the Class.

Superiority

411. This action satisfies the requirements of Fed. R. Civ. P. 23(b)(2) because Defendant has acted and refused to act on grounds generally applicable to the Classes, thereby making appropriate finalinjunctive and/or corresponding declaratory relief with respect to the

Classes as a whole.

412. This action satisfies the requirements of Fed. R. Civ. P. 23(b)(3) because a class action issuperior to other available methods for the fair and efficient adjudication of this controversy. Common questions of law and fact regarding Defendant's conduct and responsibilitypredominate over any question affecting only individual Class members.

413. Because the damages suffered by each individual Class member may be relatively smallerthan the costs of litigation, the expense and burden of individual litigation would make it very difficult or impossible for individual Class members to redress the wrongs done to each of them individually, suchthat most or all Class members would have no rational economic interest in individually controlling the prosecution of specific actions, and the burden imposed on the judicial system by individual litigation byeven a small fraction of the Class would be enormous, making class adjudication the superior alternativeunder Fed. R. Civ. P. 23(b)(3)(A) for each of the proposed Classes.

414. The conduct of this action as a class action presents far fewer management difficulties, far better conserves judicial resources and the parties' resources, and farmore effectively protects the rights of each Class member than would piecemeal litigation. Compared to the expense, burdens, inconsistencies, economic infeasibility, and inefficiencies of individualized litigation, the challenges of managing this action as a class action are substantially outweighed by the benefits to the legitimate interests of the parties, the court, and the public of class treatment in this Court, making class adjudication superior to other alternatives, under Fed. R. Civ. P. 23(b)(3)(D).

415. Plaintiff is not aware of any obstacles likely to be encountered in the management of this action that would preclude its maintenance as a class action. Rule 23 provides the Court with authorityand flexibility to maximize the efficiencies and benefits of the class mechanism and reduce managementchallenges. The Court may, on motion of Plaintiff or on its own determination, certify nationwide, statewide, and/or multistate classes for claims sharing common legal questions; utilize the provisions ofRule 23(c)(4) to certify any particular claims,

issues, or common questions of fact or law for class-wideadjudication; certify and adjudicate bellwether class claims; and utilize Rule 23(c)(5) to divide any classinto subclasses.

XIV. REALLEGATION AND INCORPORATION BY REFERENCE

416. Plaintiff realleges and incorporates by reference all the preceding paragraphs and allegations of this Complaint, as though fully set forth in each of the following Claims for Relief assertedon behalf of the Class.

XV. CLAIMS FOR RELIEF

COUNT I
Section 2 Sherman Act: Monopolization

417. Defendant has willfully acquired and maintained monopoly power in the relevant marketfor Social Advertising.

418. Facebook possesses monopoly power in the relevant market for Social Advertising. Facebook has the power to control prices or exclude competition in the relevant market.

419. Facebook's revenue share of the Social Advertising Market is approximately 80%; its share has been above 70% since 2015.

420. Defendant has willfully acquired and maintained monopoly power for Facebook in the relevant market for Social Advertising. As alleged herein Defendant has accomplished this by means ofpredatory, exclusionary, and anticompetitive conduct, including but not limited to: including but not limited to: removing friends, news feed, and other crucial APIs; refusing to sell social data to competingapplications developers; extracting social data from competitors through threats of blacklisting and/or through nonconsensual data scraping; targeting competitors for reciprocity or denial of API access; entering into whitelisting and data sharing agreements with competitors, including for large advertising purchases or the provision of user data; and engaging in covert surveillance of competitors' users in orderto detect and ultimately acquire competitive threats before they became too formidable.

421. Defendant's conduct alleged above has had an anticompetitive effect in the

relevant market for Social Advertising.

422. Defendant’s conduct alleged herein has no legitimate business purpose or procompetitive effect.

423. Defendant’s conduct has had a substantial effect on interstate commerce.

424. Plaintiff and the Class have been and will be injured in their business or property as a result of Defendant’s conduct alleged herein.

425. Plaintiff and the Class have suffered and will suffer injury of the type that the antitrustlaws were intended to prevent. Plaintiff and the Class have been and will be injured by the harm to competition as a result of Defendant’s conduct.

COUNT II
Section 2 Sherman Act: Attempted Monopolization

426. As alleged herein, Defendant has engaged in predatory, exclusionary, and anticompetitiveconduct, including but not limited to: removing friends, news feed, and other crucial APIs; refusing to sell social data to competing applications developers; extracting social data from competitors through threats of blacklisting and/or through nonconsensual data scraping; targeting competitors for reciprocityor denial of API access; entering into whitelisting and data sharing agreements with competitors, including for large advertising purchases or the provision of user data; and engaging in covert surveillanceof competitors’ users in order to detect and ultimately acquire competitive threats before they became too formidable.

427. Defendant’s conduct alleged above has had an anticompetitive effect in the relevant market for Social Advertising.

428. Defendant’s conduct alleged herein has no legitimate business purpose or procompetitive effect.

429. Defendant has engaged in that conduct with the specific intent of monopolizing the relevant market for Social Advertising.

430. Defendant has engaged in that conduct with a dangerous probability of monopolizing therelevant market for Social Advertising.

431. Defendant's conduct has had a substantial effect on interstate commerce.

432. Plaintiff and the Class have been and will be injured in their business or property as aresult of Defendant's conduct alleged herein.

433. Plaintiff and the Class have suffered and will suffer injury of the type that the antitrustlaws were intended to prevent. Plaintiff and the Class have been and will be injured by the harm to competition as a result of Defendant's conduct.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff requests that judgment be entered against Defendant and that the Court grant the following:

A. Determine that this action may be maintained as a class action pursuant to Rules 23(a),(b)(2), (b)(3) and/or (c)(4) of the Federal Rules of Civil Procedure, and direct that reasonable notice of this action, as provided by Rule 23(c)(2), be given to the Class, and declare Plaintiff as the representative of the Class;

B. Enter a judgment against Defendant in favor of Plaintiff and the Class;

C. Award the Classes damages (i.e., three times their damages) in amount to be determinedat trial;

D. Award actual, compensatory, statutory, and consequential damages;

E. Award equitable monetary relief, including restitution and disgorgement of all ill-gottengains, and the imposition of a constructive trust upon, or otherwise restricting the proceeds of Defendant's ill-gotten gains, to ensure an effective remedy;

F. Grant permanent injunctive relief pursuant to Section 16 of the Clayton Act to remedy the ongoing anticompetitive effects of Defendant's unlawful conduct;

G. Award pre-judgment and post-judgment interest at the highest rate allowed by law;

H. Award Plaintiff and the Class their costs of suit, including reasonable attorneys’ feesas provided by law; and

I. Award such further and additional relief as the case may require and the Court may deemjust and proper under the circumstances.

JURY DEMAND

Plaintiff demands a trial by jury on all claims so triable as a matter of right.

Dated: March 23, 2021

Respectfully submitted,

By: *s/ Kevin F. Ruf*
Kevin F. Ruf (#136901)
GLANCY PRONGAY & MURRAY LLP
1925 Century Park East, Suite 2100
Los Angeles, CA 90067
Telephone: (310) 201-9150
Facsimile: (310) 201-9160
Email: kruf@glancylaw.com

Brian P. Murray (*Pro Hac Vice* to be filed)
Lee Albert (*Pro Hac Vice* to be filed)
GLANCY PRONGAY & MURRAY LLP
230 Park Avenue, Suite 300
New York, NY 10169
Telephone: (212) 682-5340
Email: bmurray@glancylaw.com
Email: lalbert@glancylaw.com

Attorneys for Plaintiff Melissa Ryan